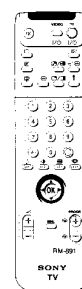
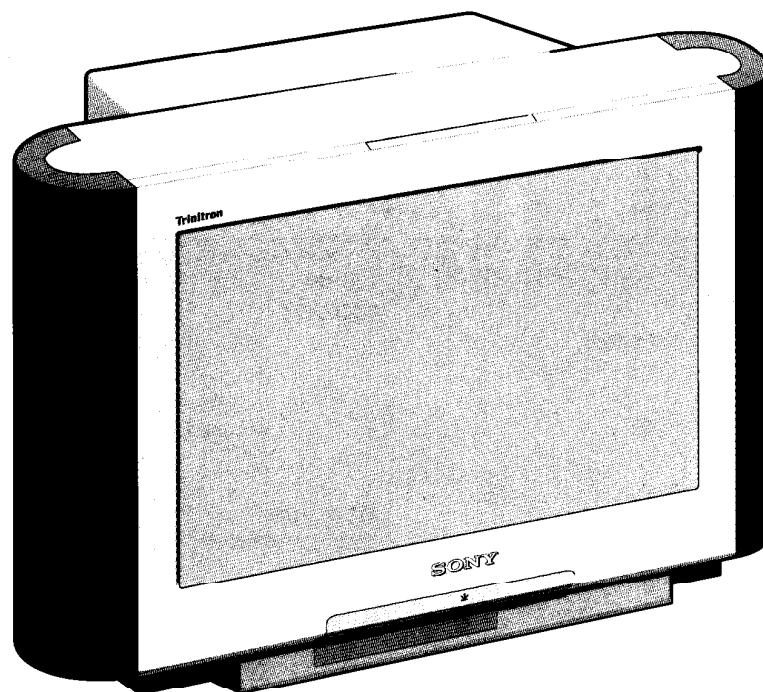


SERVICE MANUAL

AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29FC60A	RM-891	Italian	SCC-Q12C-A	KV-29FC60E	RM-891	Spanish	SCC-Q14C-A
KV-29FC60B	RM-891	French	SCC-Q13C-A	KV-29FC60K	RM-891	OIRT	SCC-Q16D-A
KV-29FC60D	RM-891	AEP	SCC-Q11C-A	KV-29FC60R	RM-891	OIRT	SCC-Q16C-A



TRINITRON® COLOR TV
SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H,D/K	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05,M1-M10,U1-U10 DK VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K,L,I	GERMAN/NICAM Stereo	L VHF : F02 F10 UHF : F21 F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, DK	KV-29FC60K GERMAN/NICAM Stereo KV-29FC60R GERMAN Stereo	B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 D/K VHF : R01-R12 UHF : R21-R69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	29FC60A	29FC60B	29FC60D	29FC60E	29FC60K	29FC60R
Power Consumption	130W	130W	130W	130W	130W	130W

[PICTURE TUBE] Super Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured diagonally)
110 degree deflection

[FRONT]
Video output - phono jack
Audio inputs - phono jacks
S Video input - 4 pin DIN
Headphone jack : stereo minijack

Input/Output Terminals

[REAR]

- ➡ 1 / ➡ 2 21-pin Euro connector (CENELEC standard).
 - Inputs for Audio and Video signals.
 - Inputs for RGB.
 - Outputs of TV Video and Audio signals.
 - ➡ 2 / ➡ 3 21-pin Euro connector
 - Inputs for Audio and Video signals.
 - Inputs for S video.
 - Outputs for Video and Audio signals (selectable).
 - ➡ 3 / ➡ 4 21-pin Euro connector
 - Inputs for Audio and Video signals.
 - Inputs for S video.
- External speaker terminals : 2-pin DIN (5)

Sound output 2x25W (Music Power)
Power requirements 220 - 240V
Dimensions Approx 800x581x496mm
Weight Approx 53 kg
Supplied accessories RM-891 Remote Commander (1)
IEC designated R6 battery (2)
Other features NICAM*, FASTEXT, TOPTEXT
* (KV-29FC60B/29FC60E/29FC60K only)

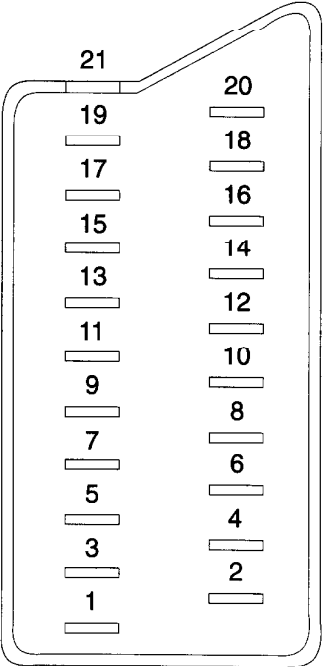
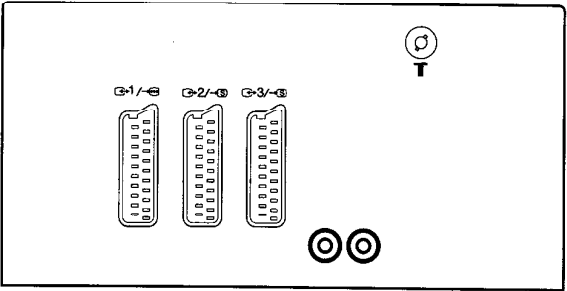
[RM-891]

Remote control system Infrared control
Power requirements 3V dc
2 batteries IEC designation
R6 (size AA)
Dimensions Approx 56x210x24mm (w/h/d)
Weight Approx 110g (Not including battery)

Design and specifications are subject to change without notice.

Model Name Item	KV-29FC60A	KV-29FC60B	KV-29FC60D	KV-29FC60E	KV-29FC60K	KV-29FC60R
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	ON	ON	ON	ON	ON	ON
RGB Priority	ON	ON	ON	ON	ON	ON
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	ON	ON	ON	ON	ON	ON
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF	OFF	OFF
Norm D/K	ON	ON	ON	ON	ON	ON
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON	OFF
Language Preset	Italian	French	German	Spanish	OIRT	OIRT

21 pin connector



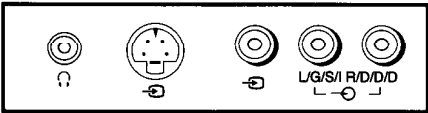
Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected

● Not Connected (open)

* at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75 ohm, positive Sync.



AE-5 SELF DIAGNOSTIC SOFTWARE

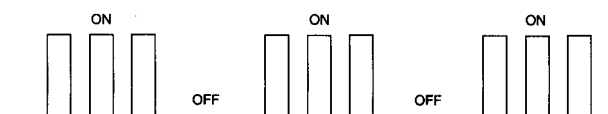
The identification of errors within the AE-5 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method.

Diagnostic Item Description	No of times Standby LED Flashes	Probable cause Location	Detected Symptoms
Power does not turn on	Does not light	Power cord is not plugged in Fuse is burned out	Power does not come on No power is supplied to the TV AC power supply is faulty
+B Overcurrent (OCP)	2 times	H.OUT (Q6803/6804) is shorted. (D Board) Linearity FET (Q6806) is shorted. (D Board) IC6604 Power IC is shorted. (D Board)	Power does not come on Load on power line has shorted
Vertical Deflection stopped	4 times	+15V is not supplied R6835 open (D Board) -15V is not supplied R6834 open (D Board) IC6700 is shorted (D Board)	Vertical deflection pulse has stopped Power line has shorted

ERROR	LED ERROR COUNT
No error	00
Not allowed (may be confused with Sircs response flash!)	01
Over Current Protection	02
Over Voltage Protection	03
Vertical Protection	04
AKB	05
H - Protection	06
Speaker Protection	07
General IIC Line 0 error	08
MEGATEXT	09
NVM	10
Main colour decoder	11
Feature Box	12
D/A converter	13
Backend	14
Multi sound processor	15
Auto Wide	16
External RAM	17

Flash Timing Example : e.g. error number 3

StBy LED



ERROR DETECTION MONITOR

Device acknowledge is used to check IIC errors. Device acknowledge is checked by sending an IIC start sequence during CRT power on. Each device is checked three times, if there is no acknowledge after every attempt, it will be regarded as an error. There are three steps to check errors

1. IIC line 0
If all devices except the NVM are errors, IIC line 0 error is displayed
2. Board check
If all devices mounted on one board have errors, board error is displayed
3. Each device check
If IIC line error and board error are not detected then the device with an error is displayed

The detected errors can be displayed as follows:

1. Error Monitor Menu
2. Error Reader

1. ERROR MONITOR MENU

The error monitor menu is displayed by selecting TT33. The following menu will be displayed:



2. ERROR READER DISPLAY

The error reader display is connected to the service connector to read actual error codes. The part number for the error reader display is S-188-900-10. Once an error has been detected it will then be displayed on the two digit error reader. The errors displayed refer to the following table :

Send Data to Error Reader				
Error Code	Data high	Data Low	Error type	Function
00 00h	-	f0h	no device	
Gen.IIC Error				
00 01h	f0h	01h	IIC 0 line	
00 02h	f0h	02h	IIC 1 line	not used
Board Error				
01 00h	f1h	00h	A Board	
02 00h	f2h	00h	B1 Board	
03 00h	f3h	00h	D2 Board	
04 00h	f4h	00h	BP Board	
05 00h	f5h	00h	D1 Board	
06 00h	f6h	00h	E Board	
07 00h	f7h	00h	J Board	
Device Error				
A Board				
01 01h	f1h	01h	CXA1875	Port Expander
01 02h	f1h	02h	TU1326	Main Tuner
01 03h	f1h	03h	TU1350	Sub Tuner
B1 Board				
02 01h	f2h	01h	P83C654	Feature Box
02 02h	f2h	02h	SDA9260	D/A Converter
B2 Board				
03 01h	f3h	01h	SAA4977	Basic
03 02h	f3h	02h	SAA4950	Memory
BP Board				
04 01h	f4h	01h	CXD2069	MID
D1 Board				
05 01h	f5h	01h	CXA8070	Dynamic Conv.
05 02h	f5h	02h	CXA1875	Port Expander
E Board				
06 01h	f6h	01h	CXD2100	Backend
J Board				
07 01h	f7h	01h	CXD2057	Auto Wide
07 02h	f7h	02h	SDA9288	PIP
07 03h	f7h	03h	TDA9320	Sub Colour
07 04h	f7h	04h	TDA9320	Main Colour
07 05h	f7h	05h	CXA1875	Sub Sound
07 06h	f7h	06h	TDA7309	HP Amp
07 07h	f7h	07h	TEA6422DT	Audio SW
07 08h	f7h	08h	MSP3410D	Sound Proc
07 09h	f7h	09h	TC9337F	Sound DSP

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED **Δ** ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE **Δ** SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

Overview

- 1** This section briefly describes the buttons and controls on the TV set and the Remote Control. Open the flaps at the front and back of this Instruction Manual for detailed illustrations. For more information refer to the page numbers given in the overview.

Remote Control

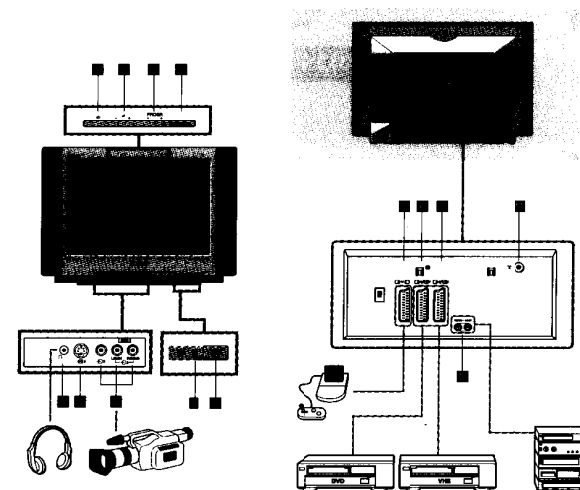
Symbol	Description	See page
1 TVI/⏻	TV: standby mode on/off	32
2 [ON]	TV: on-screen display	32
3 [TELE]	Teletext: index page	42
4 [S]	Selecting of input source	44
5 [F]	Teletext: Freezing a subpage	42
6 [PIP]	PIP: Swapping the screens	41
7 [↑]	PIP: Selecting the source	41
8 [P]	PIP: Switching on and off	41
9 1, 2, ..., 9, 0	Number buttons	32
10 [↶]	Back to the channel last selected	32
11 [S/F]	Selecting of screen format	32
12 [N/A]	No function on this set	
13 [OK]	Joystick for menu selection	31
	Press OK to confirm	
14 MENU	Switching on and off of Meru system	31
15 [PROGR +/-]	TV: Channel selection up- and downwards	32
16 [TELE +/-]	Teletext: Page selection up-and downwards	42
17 [VOL +/-]	Volume control	32
18 [PICT]	Picture mode	32
19 [EQL]	Equaliser mode	32
20 [CH +/-]	Selection of double digit channel numbers	32
21 [FREEZE]	Freezing of TV picture	32
22 [N/A]	No function on this set	
23 [TELE ON]	Teletext: Switching on	42
24 [TV MODE]	TV: Selecting of TV mode	32
25 [TELE OFF]	Teletext: Switching off	42
26 [MUTE]	Muting of sound on/off	32
27 VIDEOI/⏻	VCR: Standby mode	45
Buttons under cover		
28 [CLOCK]	Displaying of the time	32
29 [VCR +/-]	VCR operation	45
30 [VTR 1 2 3 4 MDP]	Video equipment selector	
31 [VCR +/-]	Buttons for VCR operation	
32 [RECALL]	Resetting of picture setting	32

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

TV-set – front and top

Symbol	Description	See page
A [H]	Headphone jack	46
B [S]	S-video input jack	44
C [V]	Phono video/audio inputs	44
D [S]	Indicator for Standby mode	32
E [P]	Power switch	32
F [S]	Selecting of input source	44
G [V]	Volume control	32
H [PROGR +/-]	Channel selection up- and downwards	32
I [CONTROL]	Control panel: Switching on/off	32




TV-set – rear

Symbol	Description	See page
J [1/2]	21-pin Euro connector (Scart)	44
K [2/3]	21-pin Euro connector (Scart)	44
L [3/4]	21-pin Euro connector (Scart)	44
M [T]	Aerial socket	30
N [L/G/S/I R/D/D/D]	Audio phono jacks	46

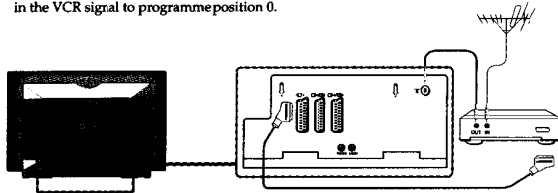
i The following chapter contains all the steps necessary when first installing your TV and the basic TV functions.

Step 1 Installation

A Connecting the TV Set

- 1 Connect the TV set to the mains socket (220-240 V.AC, 50 Hz).
- 2a Connect a conventional aerial cable to the socket marked **TV**  on the rear of the TV set.
- or
- 2b Connect your Satellite Receiver to one of the Scart connectors **1** **2** **3** of the TV set.

i When connecting a VCR to your TV set:
We recommend that you use the preset function Manual Programme Preset (page 33) to tune in the VCR signal to programme position 0.



B Inserting the Batteries into the Remote Control

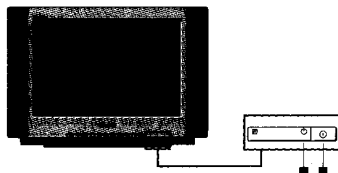
i Make sure to insert the batteries using the correct polarities.
Dispose of exhausted batteries according to your local regulations.



C Switching on the TV Set

- Press the switch  **1** at the front of the TV set.









i If the standby mode indicator  **2** on the TV is lit, press TV I/⏻  on the Remote Control to switch on the TV set.

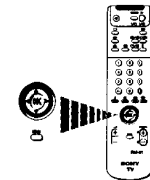


Step 2 Basic Presetting

















A The Menu System

i Your TV uses an on-screen menu system to guide you through the operations.
Use the following buttons on the Remote Control to operate the menu system:

- Press MENU  to switch the menu on and off.
- Use , , ,  of the joystick  to select within the menu system.
- Press OK  to store.
- When menu is switched off:
Press  to return to the last menu screen.








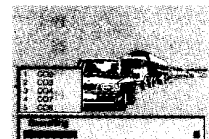
B Selecting Language and Country

- 1 Press the MENU  button.
-  The menu Language/Country appears on the screen.
- 2 Push the joystick  to  Push the joystick  to  to select the language.
Press OK .
-  The menus appear in the selected language.
- 3 Push the joystick  to  to select Country. Push the joystick  to .
- 4 Select the country in which you will operate the TV set using  or .
- i** Select Off if you wish an automatic tuning without ACI (fast presetting with a given channel sequence)
 - Confirm by pressing OK .
-  The menu Auto Tuning appears.



C Automatic Tuning In of Channels

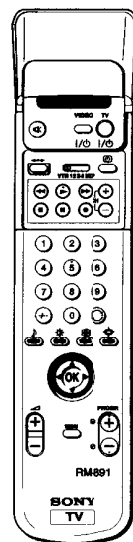
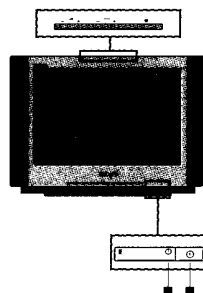
- Push the joystick  to  for more than 2 sec..
-  After all available channels are stored, the TV goes back to the programme position with which you started the automatic tuning. Your TV is now ready for use.
- To stop the automatic tuning: Press OK .
- If you wish to change the sequence of the stored channels, go to Sorting Programme Positions in Advanced Presetting.
- If you need to change or repeat the tuning afterwards (e.g. when you move house): select the menu Auto Tuning in the Set Up  menu.



Step 3 Basic TV operation

i This section explains the most important functions for the daily use of your TV set. When using the control panel on the top of the TV set, first press **CONTROL**, then **F**, **G** or **H**.

Function	Operation
Switching on/off	<ul style="list-style-type: none"> Press ⏻ on the TV set. To save energy, we recommend to switch off the TV completely when set is not in use.
Switching off temporarily (Standby mode)	<ul style="list-style-type: none"> Press TV I/O. TV is now in standby mode. Indicator ⏻ lights up. After: 15 min. without any TV signal and no pressing of a button, the TV automatically goes into standby mode.
Switch on from standby mode	<ul style="list-style-type: none"> Press TV I/O, PROGR +/- or any number button.
Selecting channels	<ul style="list-style-type: none"> Press PROGR +/- or the number buttons. For a double digit number first press -/+, then the two number buttons.
Using the Channel overview	<ul style="list-style-type: none"> Press OK. Push to ▼ or ▲ to select a channel, push to ► to confirm.
Going to the channel last selected	<ul style="list-style-type: none"> Press ◀.
Adjusting the volume	<ul style="list-style-type: none"> Press ▲ + or ▼.
Muting the sound	<ul style="list-style-type: none"> Press MUTE to switch sound off or on.
Selecting Equaliser mode (See also page 39)	<ul style="list-style-type: none"> Press EQ repeatedly to select one of the following modes: Personal, Vocal, Jazz, Rock, Pop or Flat.
Selecting Picture mode (see also page 38)	<ul style="list-style-type: none"> Press PICT repeatedly to select one of the following modes: Personal, Movie or Live.
Freezing the picture	<ul style="list-style-type: none"> Press FREEZE if you wish to make a note of an information, e.g., a telephone number. Press again to return to the normal TV screen.
Changing the screen format	<ul style="list-style-type: none"> Press ASPECT repeatedly to select 4:3 or 16:9 (imitation of wide screen format).
Resetting picture/sound settings to factory levels	<ul style="list-style-type: none"> Open the cover of the Remote Control. Press RESET.
Displaying on-screen indications	<ul style="list-style-type: none"> Press ON/STBY to switch indications on or off.
Displaying the time (only when teletext is broadcast)	<ul style="list-style-type: none"> Open the cover of the Remote Control. Press TIME to switch time on or off.
Using Teletext (see also page 42)	<ul style="list-style-type: none"> Press TEXT to switch on. Press TEXT to switch off. Select a page using the number buttons. E.g. for page 125 press 1, 2 and 5. Select the index page by pressing INDEX.
Viewing the input signal of a connected device (see also page 44)	<ul style="list-style-type: none"> Press INPUT repeatedly to select the desired input source. Press ◀ to return to the TV picture.



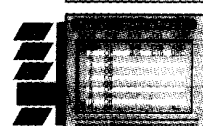
Advanced Presetting

Sorting of Programme Positions

- After having used Automatic Tuning of channels you may wish to rearrange the order of the channels.
- Press **MENU**. Select the symbol **≡** using **▼**. Push to **►**.
- Select Programme Sorting using **▼**. Push to **►** to enter.
- Select the programme position of the channel you wish to sort using **▲** or **▼**. Push to **►** to enter.
- Move the channel to the new programme position using **▲** or **▼**. Store by pressing **OK**.
- The channel is now at the new position. The other programme positions move accordingly.
- To sort other programme positions repeat steps 3 to 4.
- Press **MENU** to return to the normal TV screen.

Manual Tuning In of Channels


- Use this function to preset channels or a video input source one by one to programme positions of your choice.
- Press **MENU**. Select the symbol **≡** using **▼**. Push to **►**.
- Select Installation using **▼**. Push to **►** to enter.
- Select Manual Programme Preset using **▼**. Push to **►** to enter.
- Select the programme position by pushing to **▲** or **▼**. Push twice to **►**.
- The column **SYS** is highlighted.
- Select the TV system using **▲** or **▼**. Push to **►** to enter.
- Available TV systems are B/G for western European countries, D/K for eastern European countries, EXT for a video input source (please go to step 5c after selecting EXT).
- The column **CH** is highlighted.
- Select your method for the channel tuning using **▲** or **▼**. Push to **►** to enter.
- You have the choice between C for a terrestrial channel, S for a cable channel, F for direct frequency input.
- a Direct Channel Input - S, C or F**
- For channel numbers input a two digit number, for the channel frequency a three digit number.
 - Select the two or three digits by using the number buttons 0 to 9.
 - To start the search and to store the channel, press **OK**.
 - To preset other channels repeat steps 3 to 5a.
- b Channel search (SEARCH)**
- Use Search if you do not know the channel number or frequency.
 - Start the search for the next available channel by pushing to **▼**.
 - Store the channel by pressing **OK** or continue the search by pushing again to **▼**.
 - To search for other channels repeat steps 3 to 5b.
- c For video input sources (EXT)**
- Select the Video Input source using **▲** or **▼**.
- Store your selection by pressing **OK**.
- To allocate other sources repeat steps 3 to 5c.
- Press **MENU** to return to the normal TV screen.

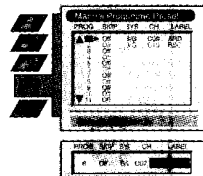


Advanced Presetting

Captioning a Station Name


i During presetting the channels are usually labelled automatically. You can, however, individually name a channel or a video input source.

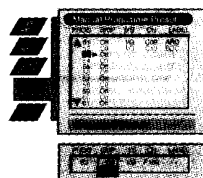
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
- 2 Select Installation using ▼. Push to ► to enter. Select Manual Programme Preset using ▼. Push to ► to enter.
- 3 Select the programme position of the channel or the video source you wish to label by pushing to ▼ or ▲. Push repeatedly to ► until the first element of the position LABEL is highlighted.
- 4 Select a number, a letter, + or a blank using ▲ or ▼. Push to ► to confirm. Select the other four characters in the same way.
- 5 Store your selection by pressing OK.
- 6 To label other channels or video sources repeat steps 3 to 5.
- 7 Press MENU to return to the normal TV screen.



Skipping of Programme Positions


i In case of 100 programme positions there may be unused positions, which you can skip in the menu Manual Programme Preset. When changing channels with the PROG +/- buttons they do then not appear. You can, however, still select them using the number buttons.

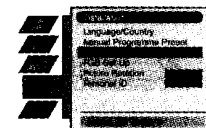
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
- 2 Select Installation using ▼. Push to ► to enter. Select Manual Programme Preset using ▼. Push to ► to enter.
- 3 Select the programme position you wish to skip by pushing to ▲ or ▼. Push to ► to enter.
- 4** The column SKIP is highlighted.
- 4 Select ON using ▼.
- 5 Store by pressing OK.
- 6 To skip other programme positions repeat steps 3 to 5.
- 7 Press MENU to return to the normal TV screen.



Advanced Presetting

Using of Further Programme Preset

















- i** Using the menu Further Programme Preset you can
- a) individually adjust the volume level of each channel.
 - b) improve the quality of a weak channel (picture or sound distortions) with manual fine tuning.
 - c) preset the AV output for programme positions of those channels with scrambled signals (e.g. from a Pay TV decoder). In this way a connected VCR records the unscrambled signal.
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
 - 2 Select Installation using ▼. Push to ► to enter. Select Further Programme Preset using ▼. Push to ► to enter.
 - 3 Select the programme position of the desired channel by pushing to ▲ or ▼. Push repeatedly to ► to select:
VOL (Volume Offset), AFT (Automatic Fine Tuning) or DECODER.
 - 4** The selected item changes colour.
 - 4a **VOL**
Push to ▲ or ▼ to adjust the volume level (range -7 to +7) of the channel. Store by pressing OK.
Repeat steps 3 and 4a if you wish to adjust the volume level of other channels.
 - b **AFT**
Push to ▲ or ▼ to fine tune the channel (range -15 to +15). Store by pressing OK. Repeat steps 3 and 4b if you wish to fine tune other channels.
 - c **DECODER**
Push to ▲ or ▼ to select AV1 (Euro AV socket 1) or AV2 (Euro AV socket 2) as output for the video source on this programme position. Store by pressing OK. Repeat steps 3 and 4c if you wish to preset the AV output of other video sources.
 - i** Should you use Auto Tuning afterwards, this setting will be cancelled.
 - 5 Press MENU to return to the normal TV screen.

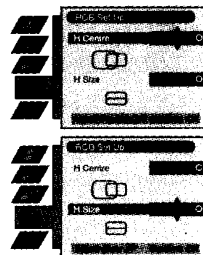


Advanced Presetting

Adjusting the Picture Geometry for an RGB Source










i When connecting an RGB source such as a Sony playstation you may need to readjust the picture geometry.

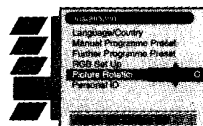
- 1 Select the connected RGB source  by pressing  repeatedly.
- 2 Press MENU. Select the symbol  using . Push to .
- 3 Select Installation using . Push to  to enter. Select: RGB Set Up using . Push to  to enter.
- 4 Select H Centre by pushing to . Adjust the centre of the picture (range from -10 to +10) using  or . Store by pressing OK.
- 5 Select H Size using . Push to  to enter. Adjust the horizontal coordinates (range from -10 to +10) using  or . Store by pressing OK.
- 6 Press MENU to return to the normal TV screen.



Adjusting the Picture Rotation

i Because of the earth magnetism the picture might slant. In this case you can readjust the picture.











- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select Installation using . Push to  to enter. Select: Picture Rotation using . Push to  to enter.
- 3 Adjust the Picture Rotation (adjusting range -5 to +5) by pushing to  or . Store by pressing OK.
- 4 Press MENU to return to the normal TV picture.



Advanced Presetting














Inputting Your Personal ID



i You can programme your TV with a safety code, so that you can be traced if your TV is stolen and recovered. This code can only be input once! Make sure to write it down in this Instruction Manual.





- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select Installation using . Push to  to enter. Select Personal ID using . Push to  to enter.
- 3a Select the first of a total of 11 characters (letter, number, + or a blank) by using  or .
- b Push to  to go to the next character.
- c Repeat a and b for all characters.
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.



Presetting and Labelling of Input Sources

- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select AV Preset using . Push to  to enter.
- 3 Select the desired AV input (AV 1, 2 or 3) using  or . Push to  to enter.
- i** After each step you have the choice between memorizing (press OK) or going to the next item (push to ).
- 4 **To label the source:**
 - a Push to  to select Label.
 - b Select the first character using  or . Push to  to confirm.
 - c Repeat step b to select the other 4 characters.
 - d Store by pressing OK.
- 5 Repeat steps 3 to 4 for the other AV inputs.
- 6 **Selecting the AV3 Input Source:**

i In case of AV3 you have the choice between the front AV3 sockets  or the rear Scart 3  connector.

 - a Push to  to select AV3 Input. Push to  to enter.
 - b Select Front or Rear using  or .
 - c Store by pressing OK.
- 7 Press MENU to return to the normal TV screen.




Advanced TV operation

Adjusting Picture and Sound

i Picture and sound are adjusted at the factory. You can, however, adjust them individually.

- 1 Press MENU.
Select the symbol  for Picture or  for Sound using ▲ or ▼.
Push to ► to enter.

 The menu Picture or Sound Control is displayed.

- 2 Select the desired item using ▲ or ▼. Push to ► to enter.
- 3 Adjust the selected item using ▲, ▼, ► and ◀. Press OK to store.

i Refer to the tables on this and the following page for more information.

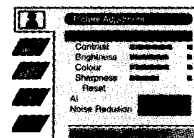
- 4 Repeat steps 2 and 3 to adjust other items.
- 5 Press MENU to return to the normal TV screen.

Picture Control

Item	Effect/Operation
Picture Mode	▼ Personal (for individual settings) Movie (for movie broadcasts) ▲ Live (for live broadcasts)
Contrast	Less ◀ ▶ More
Brightness*	Darker ◀ ▶ Brighter
Colour*	Less ◀ ▶ More
Hue**	Reddish ◀ ▶ Greenish
Sharpness*	Softer ◀ ▶ Sharper
Reset	Resets picture to the factory preset levels
AI (Artificial Intelligence)	▼ Off: normal ▲ On: Automatic optimization of contrast level according to the TV signal
Noise Reduction	▼ Off: Normal ▲ On: Reduces picture noise in case of a weak broadcasting signal

* Only if Personal is selected in Picture Mode

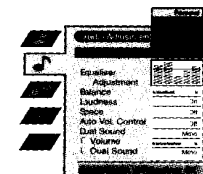
** Only available for NTSC colour signal (e.g. US video tapes)



Advanced TV operation


Sound Control

Item	Effect/Operation
Equaliser Mode	Select between the following sound settings ▼ Personal Vocal Jazz Rock Pop ▲ Flat (fixed setting, cannot be adjusted)
Equaliser adjustment	i You can adjust the mode selected in Equaliser mode by cutting and boosting of 5 selected frequency bands. i Only the changes made in Personal can be stored, the others return to factory setting. ● Select the desired bar using ► or ◀, adjust using ▲ and ▼. Press OK to store.
Balance	▲ More left ▼ More right
Loudness	▲ Off: Normal ▼ On: For music broadcasts
Space	▲ Off: Normal ▼ On: Special acoustic effect
Auto Volume Control	▼ On: volume level of the channels will stay the same independent of the broadcast signal (e.g. in case of advertisements) ▲ Off: volume level changes according to the broadcast signal
Dual Sound	● For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2 ● For a stereo broadcast: Stereo ◀ ▶ Mono
Headphones	Less ◀ ▶ More
Volume	● For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2
Dual Sound	● For a stereo broadcast: Stereo ◀ ▶ Mono ● PIP i When PIP is switched on, you can additionally select the PIP sound for the headphones






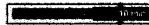
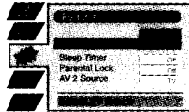
Advanced TV operation

Using the Features Menu

- 1 Press MENU. Select the symbol  using ∇ . Push to \blacktriangleright .
- 2 Select the desired menu item using ∇ . Push to \blacktriangleright to enter.
- 3 Select the desired setting using \blacktriangle or ∇ .
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.


Features

Item	Effect/Operation
PIP Position	 See next page for details
Sleep Timer	 You can select a time period after which the TV switches itself into standby mode \blacktriangle Off 10 min. 20 min. ... ∇ 90 min.
Parental Lock	∇ Off: Normal mode \blacktriangle On: TV can only be switched on out of standby-mode using the Remote Commander, the buttons on the TV do not work.
AV2Source	 You can select the source to be output from the Scart connector $\text{C}2/\text{C}2$. In this way you can record from this socket while watching another source. \blacktriangle TV audio/video signal from the aerial T AV1 audio/video signal from Scart 1 AV2 audio/video signal from Scart 2 ∇ AV3 audio/video signal from front or rear connectors







Advanced TV operation





Using Picture-in-Picture

-  Picture-in-Picture (PIP) lets you display a second, small screen within the main TV picture. In this way you can watch the video output from any connected equipment, e.g., from a VCR, while watching TV.



Switching PIP on and off

- Press C/C .
-  The small screen is displayed.
-  The source of the small screen is the one last used when the TV was on.
- Press C/C  again to switch PIP off.

Selecting a PIP source

- 1 Press \uparrow .
 -  The symbol \uparrow is displayed in the bottom left-hand corner of the screen.
 - 2 Press C/C  repeatedly until the desired source appears.
-  You can select between TV, AV1, AV2, AV3.
- If no video source (e.g. VCR or Camera) is connected, the PIP will be noisy.
 - You cannot display an RG3 source in the PIP.


Swapping the screens


- Press C/C .
-  The two screens are swapped.

Changing channels if the TV picture is in the PIP

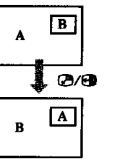
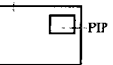
- First press \uparrow , then the respective number buttons.

Changing the PIP position

-  There are four different positions of the small screen within the main screen. Select the PIP position in the Features menu.

- 1 Press MENU. Select the symbol  using ∇ . Push to \blacktriangleright to enter.
- 2 Select PIP position by pushing to \blacktriangleright .
- 3 Select the desired position using ∇ or \blacktriangle . Press OK to select.
- 4 Press MENU to return to the normal TV screen.

Main screen



Teletext

Most TV channels broadcast information via teletext. The index page of the teletext service (usually page 100) gives you information on how to use their service.

- Make sure to use a TV channel with a strong signal, otherwise there may be Teletext errors.

Direct Access Functions

Switching Teletext on and off

- Select the TV channel which carries the teletext service you want to view.
- Press once to switch teletext on.
 - The teletext menu is displayed.
 - Press twice for Mix mode.
 - The TV broadcast and the Teletext display are overlapped.
- Press or press a third time to switch teletext off.

Selecting a Teletext Page

Direct Page Selection

- Input the three digits of the page number using the number buttons .

If you have made a mistake:

- Type in any three digits, then reenter the correct page number.

Page Catching

- Select a teletext page which has several page numbers on it (e.g., the index page).
- Press OK .
 - Page Catching is displayed.
- Select the desired page number using or and press OK.
- The requested page is displayed after some seconds.



Selecting the next or the preceding page

- Press (Page +) or (Page -).

Selecting the index page

- Press .

Selecting a subpage

- A teletext page may consist out of several subpages. In this case an information line is displayed showing the number of the subpages.
 - Select the mode by pushing to . Select the subpage by using or .



Freezing a Teletext subpage

- Press or .
 - The symbol is displayed and the subpage is not updated.
- Press to resume normal teletext reception.

Using Fastext*

*depending on availability of service

- Fastext lets you access pages with one button stroke. When Fastext is broadcast, a colour-coded menu appears at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons , , , on the Remote Control.
 - Press the coloured button which corresponds to the colour in the colour-coded menu.



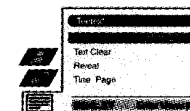
Teletext

Using the Teletext Menu

- This TV set has a menu-guided teletext system. When teletext is switched on you can use the joystick buttons to operate the teletext menu.

Select the menu functions as follows:

- Press MENU .
- The Teletext menu is superimposed on the teletext display.
- Select the teletext function using or . Push to to enter.



Top/Bottom/Full

- For convenient reading of a Teletext page you can enlarge it. After having selected the function, a sub menu Top Bottom Full OK is displayed.

- Push to to enlarge the upper half of the screen, push to to enlarge the lower half. Press OK to resume the normal size. Press to resume the normal Teletext operation.



Text Clear

- After having selected the function, you can watch a TV channel while waiting for a requested Teletext page. As soon as the page is available, the symbol changes colour.

- Press to view the page.



Reveal

- Some teletext pages contain hidden information (e.g., for a quiz), which you can reveal.

- After having selected the function, the hidden information appears.
 - Press to resume the normal Teletext operation.

Time Page*

*depending on availability of service

- You can call up a time-coded page - such as an alarm page - at a time specified by you.

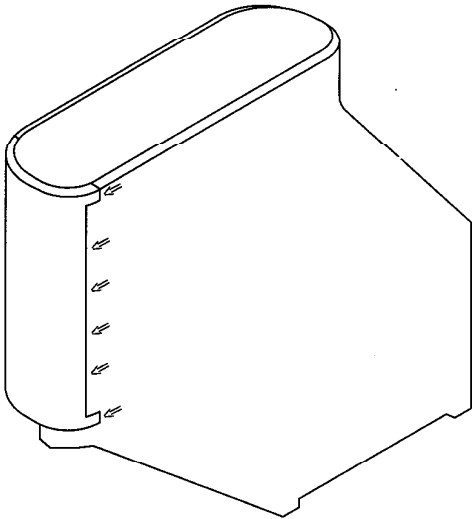
- After having selected the function a sub menu is displayed.


- Select On using or . Push to to enter.
- Enter the three digits of the desired page using the number buttons .
- Enter the four digits of the desired time using the number buttons .
- Press OK to store.
- The time is displayed in the top left-hand corner of the screen. At the requested time the page is displayed.



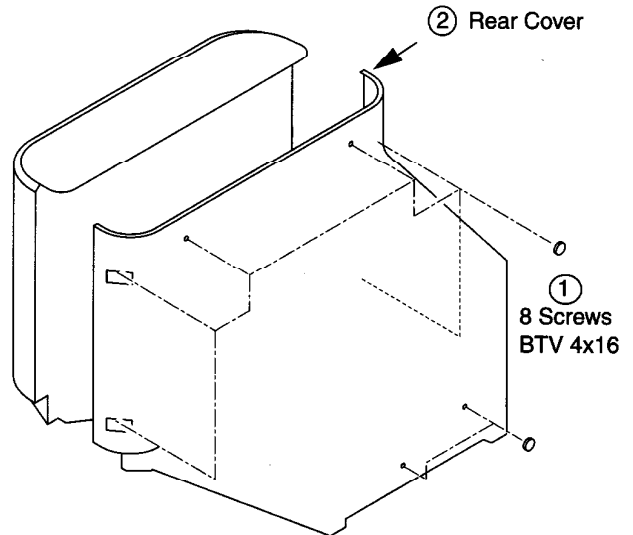
SECTION 2 DISASSEMBLY

2-1. SPEAKER GRILLE REMOVAL



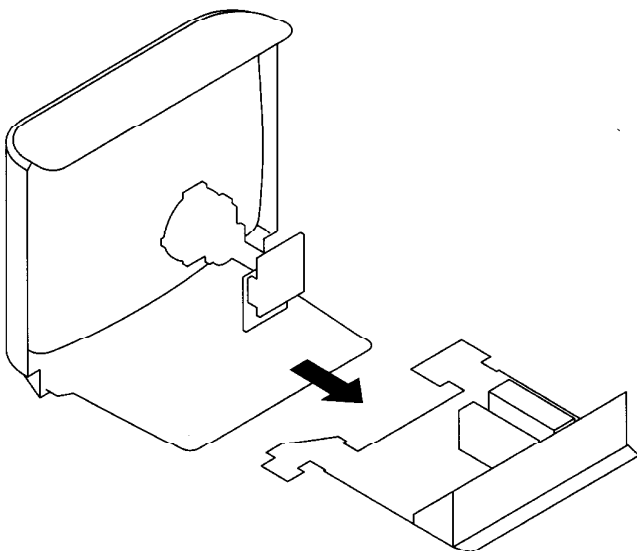
Remove the speaker grille by pressing the buttons marked . While pressing the top button press the remaining five buttons in turn to release the grille.

2-2. REAR COVER REMOVAL

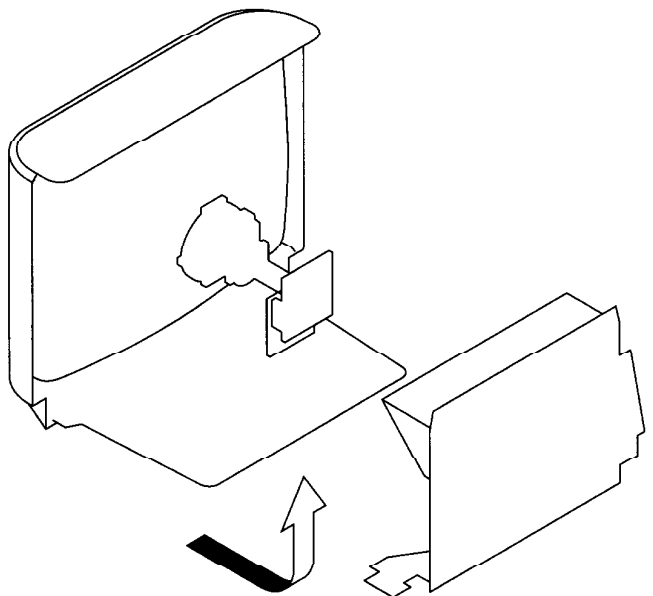


CAUTION:
Take care not to damage the C Board when removing or refitting the rear cover.

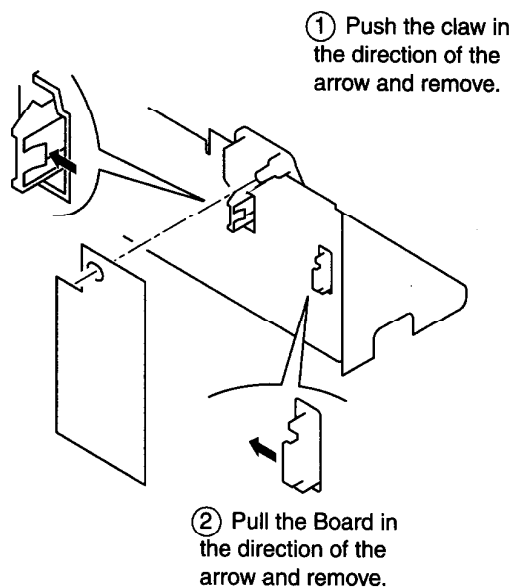
2-3. CHASSIS ASSY REMOVAL



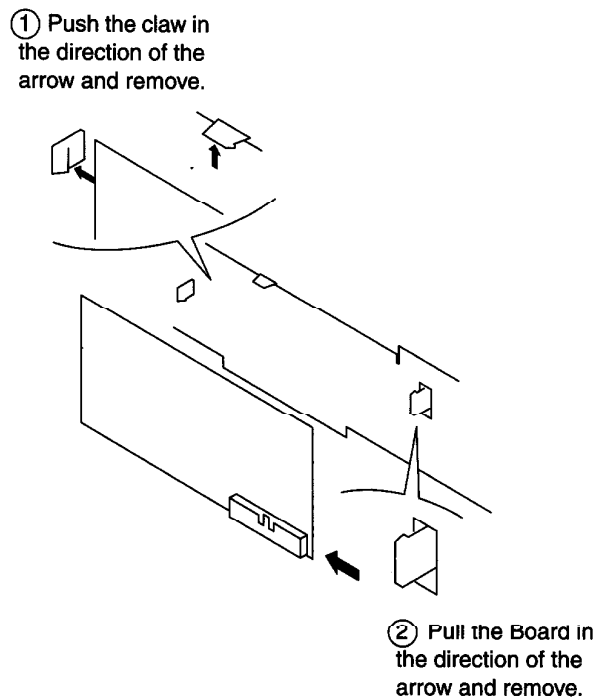
2-4. SERVICE POSITION



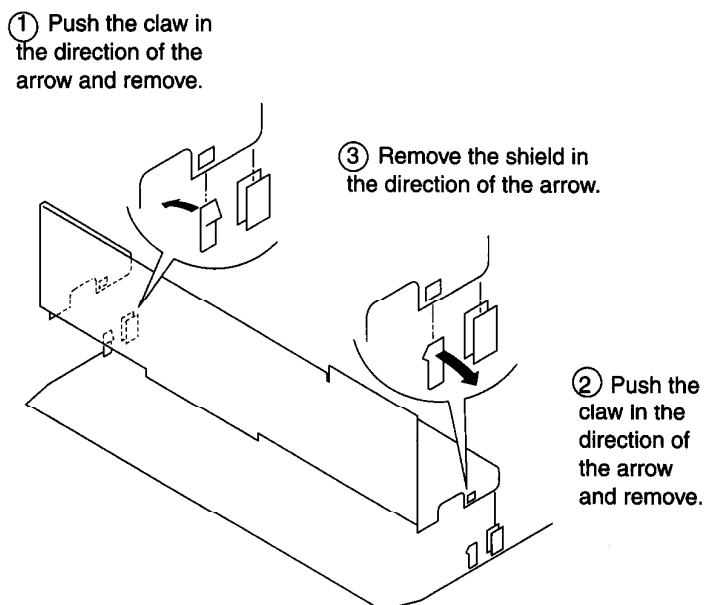
2-5. U BOARD REMOVAL



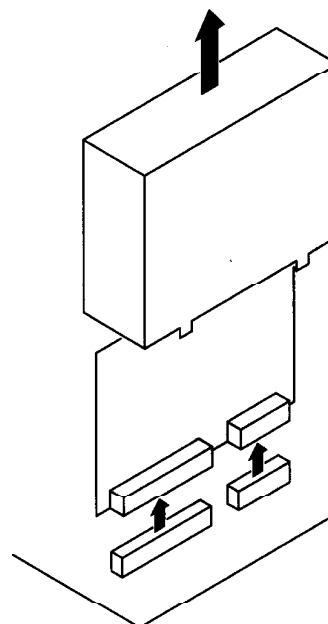
2-6. J BOARD REMOVAL



2-7. J SHIELD REMOVAL



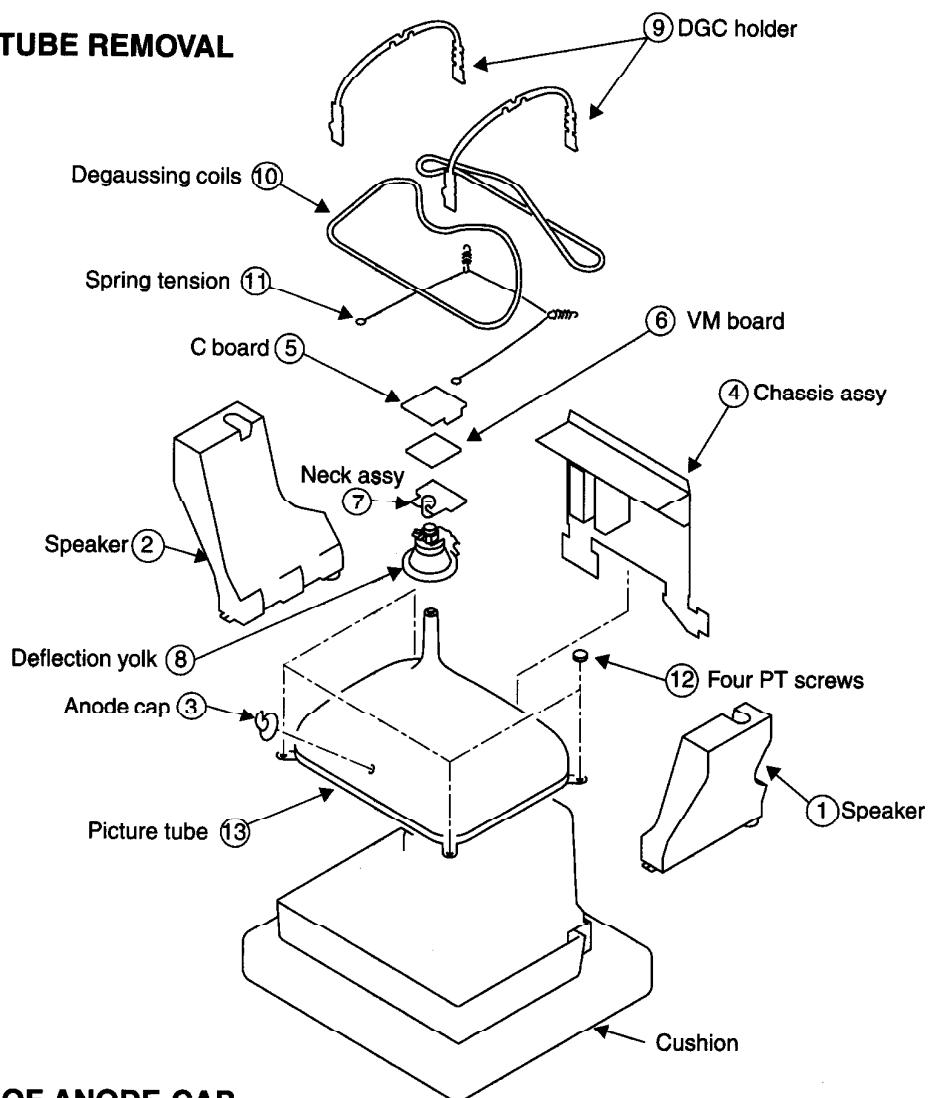
2-8. B2 BOARD REMOVAL



NOTE

All other boards are removed in a similar manner to those shown

2-9. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

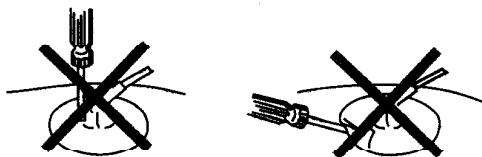
Note : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

* REMOVING PROCEDURES.

-
- ① Turn up one side of the rubber cap in the direction indicated by the arrow (a)
 - ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow (b)
 - ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow (c)

• HOW TO HANDLE THE ANODE-CAP

- ① To prevent damaging the surface of the anode-cap do not use sharp materials.
- ② Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
- ③ A metal fitting called a shatter hook terminal is fitted inside the rubber cap. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.



REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.

This is performed by cutting the gates with a sharp wire cutter at the locations indicated by arrows.

Note : There are 4 plates fitted to the main bracket and secured by 4 gates.

Only remove the necessary plate to gain access to the printed wiring board.



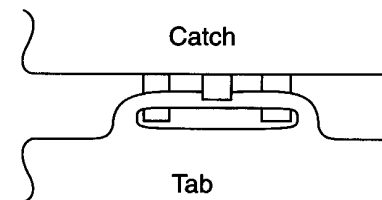
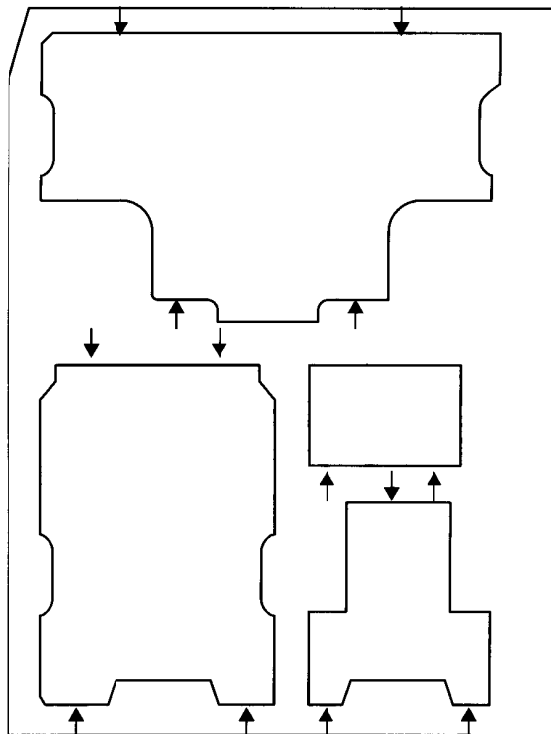
For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from the cut position to allow the tabs to be fitted in the catch positions.

20



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings:

Contrast normal

Brightness normal

Carry out the following adjustments in this order:

- 3-1. Beam Landing
- 3-2. Convergence
- 3-3. Focus
- 3-4. White balance

Note: Test equipment required

1. Color bar/pattern generator.
2. Degausser.
3. Digital multimeter.
4. Oscilloscope.

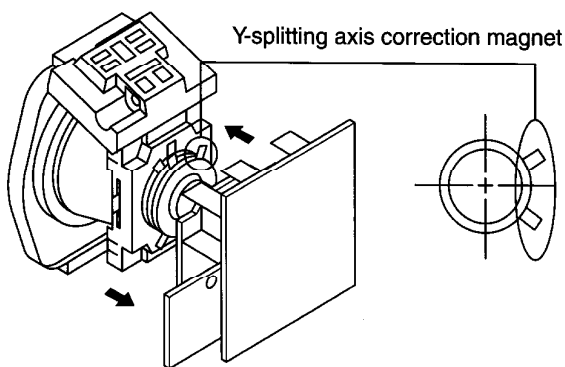
3-1. BEAM LANDING

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

(1) Adjustment of Correction Magnet for Y-Splitting Axis

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-2.
4. Move the deflection yolk as far forward as is possible.
5. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly.
6. Return the deflection yolk to its original position.



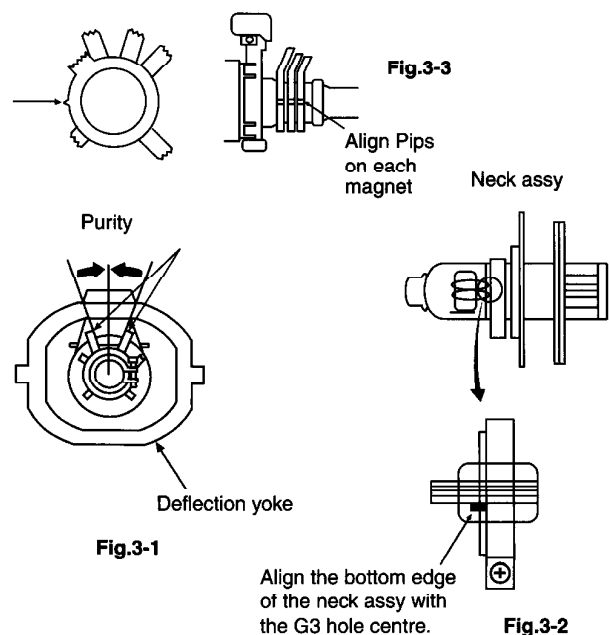
Caution :

High voltages are present on the Deflection yolk terminals - take care when handling the Deflection yolk whilst carrying out adjustments.

(2) Landing

Note : Before carrying out the following adjustments adjust the magnets as indicated below [See Fig.3-3].

1. Input an all-white signal from the pattern generator. Maximize the picture setting and adjust the Brightness setting.
2. Rough-adjust the focus and horizontal convergence.
3. Loosen the deflection yolk screws and align the purity adjustment knob to its central position. [See Fig.3-1].
4. Switch from the all-white pattern to an all-green pattern.
5. Move the deflection yolk backwards and adjust with the purity magnet so that the green is at the centre and it aligns symmetrically. [See Fig.3-4].
6. Move the deflection yolk forward and adjust so that the entire screen becomes green.
7. Switch the raster signal to red, then to blue and verify the landing condition.
8. When the position of the deflection yolk has been determined, fasten the deflection yolk with the screw.
9. If the beam does not land correctly in all the corners of the screen, use magnets to correct it. [See Fig.3 5].



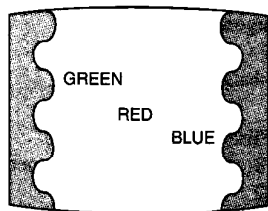


Fig. 3-4

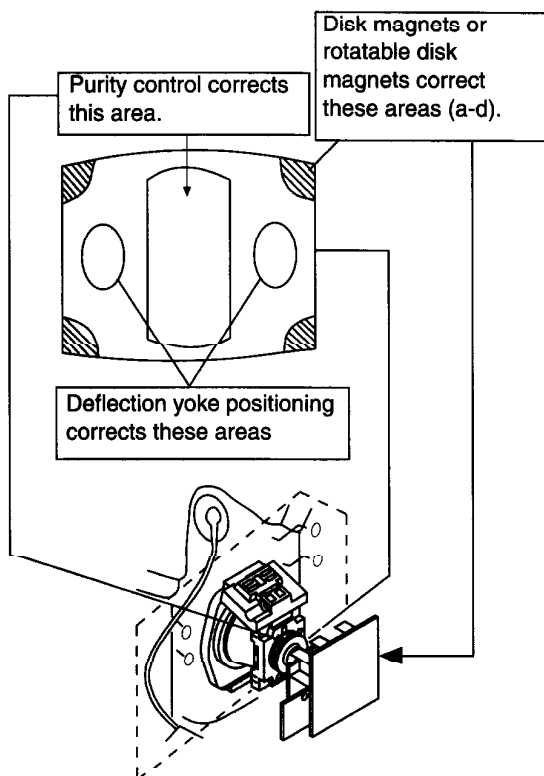
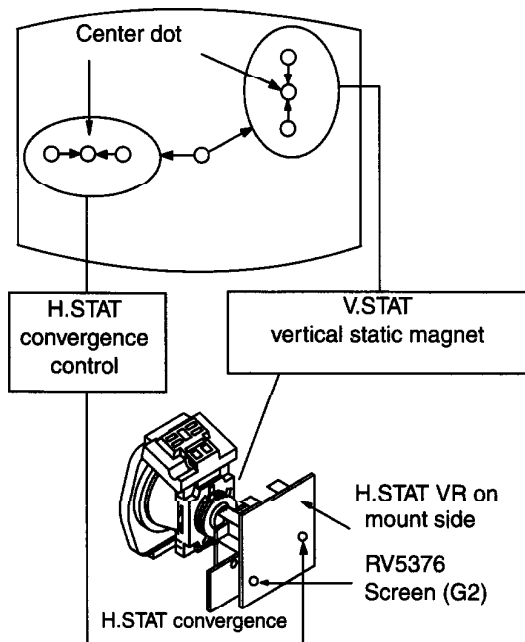


Fig. 3-5

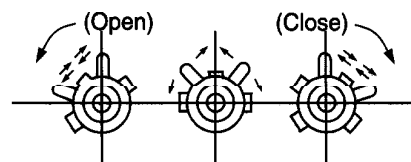
3-2. CONVERGENCE

(1) Screen centre convergence [Static convergence]

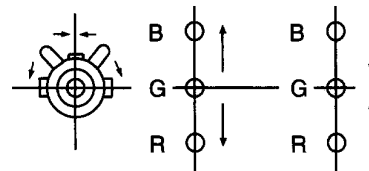
1. Input a dot signal from the pattern generator.
Normalize the picture setting.
2. [Moving horizontally], adjust the H.STAT control so that the horizontal red, green and blue dots coincide at the centre of the screen.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.



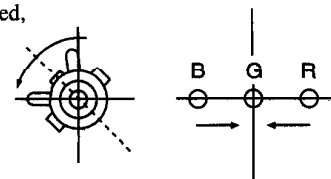
- If the horizontal dots are unable to coincide with the variable range of the H.STAT convergence, adjust together with the V.STAT convergence while tracking.
[Adjust the convergence by tilting the V.STAT convergence or by opening and closing the V.STAT convergence.]



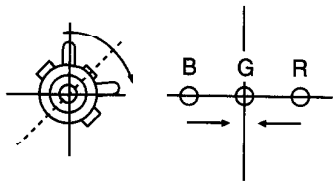
4. Movement of the red, green and blue dots by tilting the V.STAT magnet and by opening or closing the V.STAT magnet.
- a). By opening or closing the V.STAT magnet, the red, green and blue dots move as indicated below.



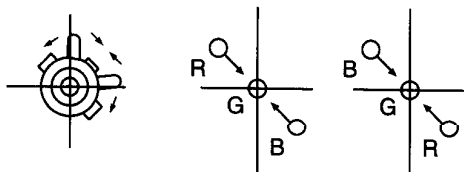
- b). By rotating the V.STAT magnet counter clockwise, the red, green and blue dots move as indicated below.



- c). By rotating the V.STAT magnet clockwise, the red, green and blue dots move in the direction indicated below.



- d). By opening or closing the V.STAT magnet, the red, green and blue dots move in the direction indicated below.

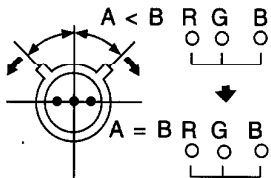


Note : If the blue dot does not coincide with the red and green points correct the points by using the BMC [Hexapole] magnet.

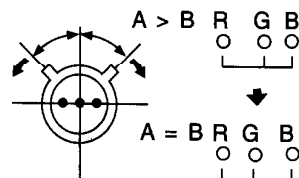
5. Correction for HMC [horizontal mis-convergence] and VMC [vertical mis-convergence] by using the BMC [Hexapole] magnet.

- a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.

HMC correction(A)

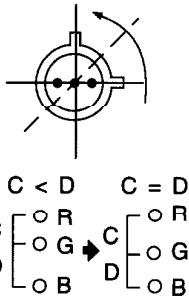


HMC correction(B)

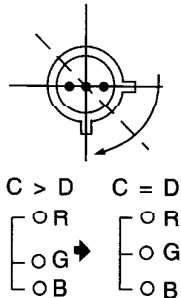


- b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

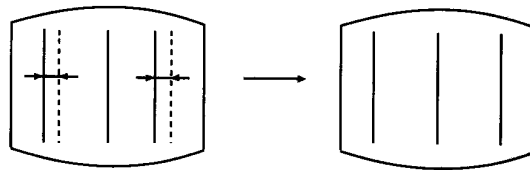
VMC correction(A)



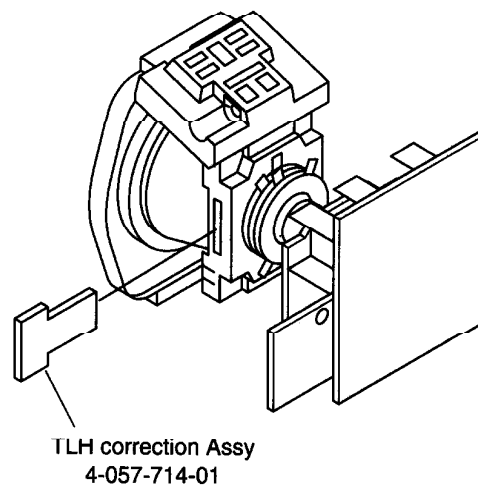
VMC correction(B)



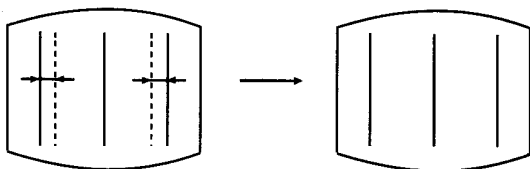
HAMP



7. HTIL correction can be performed by adding a THL correction ASSY to the DY.



HTIL



Layout of each control

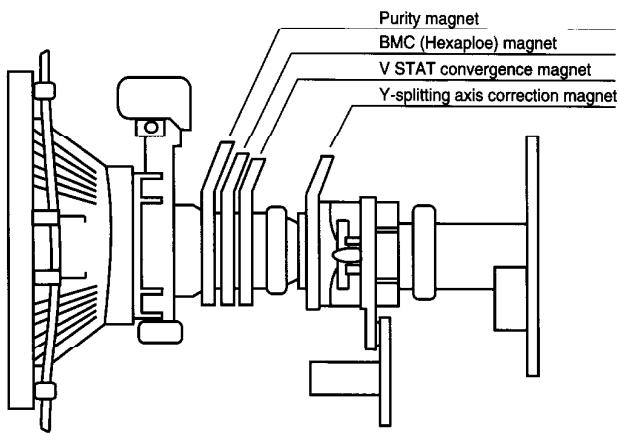
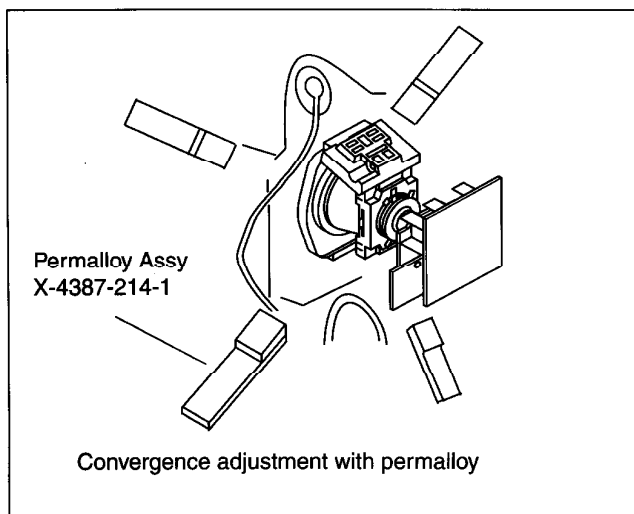
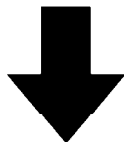
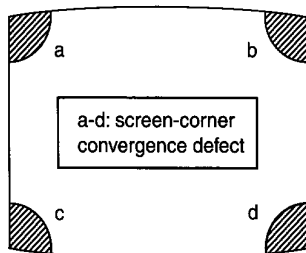


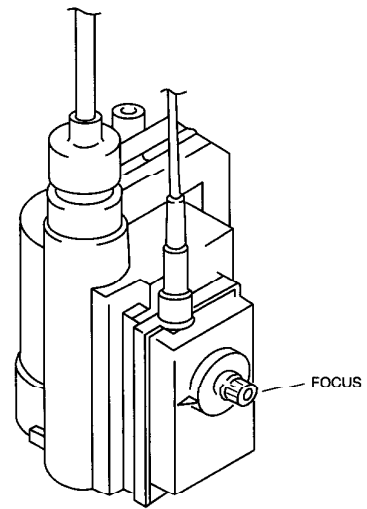
Fig 3-5

Note : If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloys.



3-3. FOCUS

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. SCREEN (G2), WHITE BALANCE

[Adjustment in the service mode using the remote commander]

G2 adjustment (RV5376)

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 175V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control RV5376 [SCREEN] located on the C Board to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

1. Input an all-white signal.
2. Enter into the Service Mode by pressing 'TEST', 'TEST' and 'MENU' 'MENU' on the Service Commander.
3. Select 'Backend' from the on screen menu display and press 'OK'.
4. The 'Backend' menu will appear on the screen.
5. Set the contrast to MAX.
6. Set the 'R DRIVE' to 41.
7. Adjust the 'G DRIVE' and 'B DRIVE' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the contrast to MIN.
10. Set the 'R CUT-OFF' to 31.
11. Adjust the 'G CUT-OFF', and 'B CUT-OFF' with the left and right buttons on the remote commander so that the white balance becomes optimum.
12. Press the 'OK' button to write the data for each item.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1

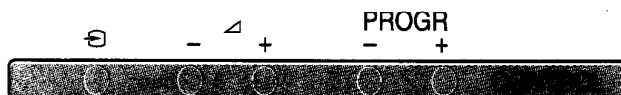
SECTION 4 CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

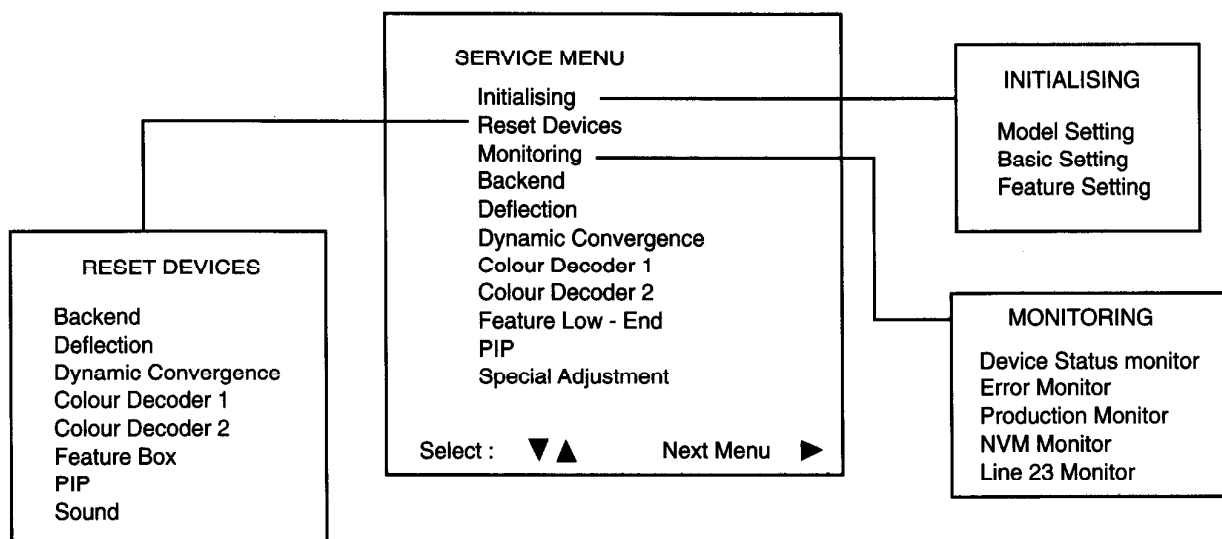
Service adjustments to this model can be performed using the supplied Remote Commander RM-891.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing PROG + (plus) and PROG - (minus) buttons on the top panel.



2. "TT" will appear in the upper right corner of the screen.
3. Press the 'MENU' button twice on the remote commander to obtain the service menu on the screen.



4. Push the joystick up or down on the remote commander to select the adjustment item.
5. Push the right button to proceed to the next menu.
6. If the required adjustment item is 'Deflection', push the down button to move to 'Deflection'.
7. Push the joystick to the right to enter into 'Deflection'.
8. Change the data in order to comply with each standard.

NOTE:

- Before performing any adjustments assure that the correct model has been selected in the Model Setting menu.
- After carrying out the service adjustments, to prevent the customer accessing the Service Menu switch the TV set OFF and then ON.

Model Setting	
1	KV-29FX60A/D/E
2	KV-29FX60B
3	KV-29FX60U
4	KV-29FC60A/D/E
5	KV-29FC60B
6	KV-29FC60K
7	KV-29FC60R
8	KV-29FS60A/D/E
9	KV-29FS60B
10	KV-29FS60K
11	KV-29FS60R
12	KV-28/32FX60A/D/E
13	KV-28/32FX60B
14	KV-28/32FX60K
15	KV-28/32FX60R
16	KV-28/32FX60U
17	KV-29FS60A/D/E
18	KV-29FS60B

Fig.4-1

Basic setting				
No	Descr.	Min	Max	Data
1	Sys.B/G	OFF	ON	ON
2	Sys.D/K	OFF	ON	ON
3	Sys.L	OFF	ON	ON
4	Sys I (UK)	OFF	ON	OFF
5	Sys I (IRL)	OFF	ON	OFF
6	Russian sound	OFF	ON	OFF
7	TXT Nod.option	1	4	3
8	simple PAT	OFF	ON	OFF
9	16:9 CRT	OFF	ON	OFF
10	Sub-woofer	OFF	ON	ON
11	Auto stand-by	OFF	ON	ON
12	comb-filter	OFF	ON	OFF
13	Auto YC det	OFF	ON	ON
14	Auto comb det	OFF	ON	OFF
15	AV2 Available	OFF	ON	ON
16	AV3 Available	OFF	ON	ON
17	AV4 Available	OFF	ON	OFF
18	AV3 Front & rear	OFF	ON	ON
19	SECAM Tape	OFF	ON	OFF

Fig.4-2

NOTE:

The above table is dependant on model, destination & size.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL-TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1

Fig.4-3

Feature setting					
No	Descr.	Min	Max	Data	
1	PIP	OFF	ON	ON	

Fig.4-4

Colour Decoder 1					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-5

Colour Decoder 2					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-6

Deflection					
No	Descr.	Def	Min	Max	Data
1	V-Size	31	0	63	34
2	V-Position	31	0	63	21
3	V-Comp	1	0	3	1
4	V-Linear	7	0	15	7
5	S-Corr	7	0	15	8
6	H-Size	31	0	63	29
7	EW-DC	OFF	OFF	ON	OFF
8	Pin-Amp	31	0	63	36
9	Up-Cpin	31	0	63	35
10	M-Pin	2	0	3	2
11	Lo-Cpin	31	0	63	37
12	Trapezium	7	0	15	7
13	H-Position	31	0	63	25
14	AFC-Bow	7	0	15	7
15	AFC-Angle	7	0	15	9
16	Up-Vlin	0	0	15	0
17	Lo-Vlin	0	0	15	0

Fig.4-7

Dynamic Convergence					
No	Descr.	Def	Min	Max	Data
1	Range	63	0	63	32
2	H Stat	33	0	63	33
3	H amp L	37	0	63	37
4	H amp R	36	0	63	36
5	Up Y	31	0	63	31
6	Low Y	33	0	63	33
7	Y Up L	30	0	63	30
8	Y Up R	30	0	63	30
9	Y Low L	31	0	63	31
10	Y Low R	30	0	63	30
11	Mbow Up L	31	0	63	31
12	Mbow Up R	32	0	63	32
13	Mbow Low L	32	0	63	32
14	Mbow Low R	32	0	63	32
15	V Stat	32	0	63	32
16	Linearity	128	0	255	104
17	H Centre	32	0	63	32
18	H Trap	32	0	63	32
19	Rotation	0	0	255	0
20	Focus Phase	128	0	255	128

Fig.4-8

Feature Low-End					
No	Descr.	Def	Min	Max	Data
1	F.S.FM	OFF	OFF	ON	OFF
2	G-Mode	OFF	OFF	ON	OFF
3	Picture Pos	0	0	3	0
4	Comp Mode	OFF	OFF	ON	OFF
5	CompSW	OFF	OFF	ON	OFF
6	Acqu.freq	OFF	OFF	ON	OFF
7	Still Pic	OFF	OFF	ON	OFF
8	Init	OFF	OFF	ON	OFF
9	Dis Feature	ON	OFF	ON	ON
10	Dis Vlimit	ON	OFF	ON	ON
11	Scr Fade	0	0	3	0
12	Hwe Delay	20	0	255	20
13	Auto Vshift	OFF	OFF	ON	OFF
14	Vwe Delay	0	0	127	0
15	SFR sw	OFF	OFF	ON	OFF
16	IPQ	0	0	3	0
17	D.Col Dec	OFF	OFF	ON	OFF
18	Blankfield	0	0	15	0
19	P1.5	OFF	OFF	ON	OFF
20	P1.4	OFF	OFF	ON	OFF
21	P1.3	OFF	OFF	ON	OFF
22	P1.2	OFF	OFF	ON	OFF
23	P1.1	OFF	OFF	ON	OFF
24	Set Vdba	OFF	OFF	ON	OFF
25	Set Sidep	ON	OFF	ON	ON
26	Set Hwe	OFF	OFF	ON	OFF
27	Set Clv	OFF	OFF	ON	OFF
28	Set Hddel	OFF	OFF	ON	OFF
29	Set Hblind	OFF	OFF	ON	OFF
30	Set Hre	ON	OFF	ON	ON
31	Set Hbda	ON	OFF	ON	ON
32	Set Hdav	ON	OFF	ON	ON
33	Vbdasta	0	0	255	0
34	Vsdasto	0	0	255	0
35	Msbhwesto	OFF	OFF	ON	OFF
36	Msbhwesta	OFF	OFF	ON	OFF
37	Msbvbdasto	OFF	OFF	ON	OFF
38	Msbvbdasta	OFF	OFF	ON	OFF
39	Hdavsta	40	0	255	40
40	Hdavsto	255	0	255	255

Feature Low-End(Cont.)					
No	Descr.	Def	Min	Max	Data
41	Hbdasta	223	0	255	223
42	Hbdasto	222	0	255	222
43	Hresta	38	0	255	38
44	Hresto	202	0	255	202
45	Hblindsta	31	0	255	31
46	Hblindsto	30	0	255	30
47	MsbHblindsta	OFF	OFF	ON	OFF
48	MsbHblindsto	OFF	OFF	ON	OFF
49	Msb Hresto	ON	OFF	ON	ON
50	Msb Hresta	OFF	OFF	ON	OFF
51	Msbhbdasta	ON	OFF	ON	ON
52	Msbhbdasto	ON	OFF	ON	ON
53	Msbhdavsto	ON	OFF	ON	ON
54	Msbhdavsta	OFF	OFF	ON	OFF
55	Hddel	0	0	15	0
56	Clvsta	0	0	255	0
57	Clvsto	9	0	255	9
58	Hwesta	44	0	255	44
59	Hwesto	208	0	255	208
60	Ex-Thres	OFF	OFF	ON	OFF
61	Wes	ON	OFF	ON	OFF
62	Demo mode	ON	OFF	ON	OFF
63	Limerick NR	0	0	4	0
64	Nthr	0	0	255	2
65	Wval	200	0	255	200
66	Agc Ych	203	0	255	203
67	Agc Uvch	209	0	255	209
68	Aal-Bypass	OFF	OFF	ON	OFF
69	Stby Fr	OFF	OFF	ON	OFF
70	Lsb Agc-Uv	OFF	OFF	ON	OFF
71	Lsb Agc-Y	OFF	OFF	ON	OFF
72	Vcl cor	0	0	3	0
73	Ucl cor	0	0	3	0
74	Uv cor mode	0	0	3	0
75	Uvcl tau	3	0	3	3
76	Uvcol Lvl	0	0	3	0
77	Fil Mem	OFF	OFF	ON	OFF
78	Overl Thr	1	0	3	1
79	Y delay f	4	0	7	4
80	Dcti pdxsel	ON	OFF	ON	ON

Fig.4-9

Feature Low-End (Cont.)					
No	Descr.	Def	Min	Max	Data
81	Dcti Thres	0	0	15	0
82	Dcti Gain	0	0	7	0
83	Dcti Super	ON	OFF	ON	ON
84	Dcti Fil	ON	OFF	ON	ON
85	Dcti Prot	ON	OFF	ON	ON
86	Dcti Sep	ON	OFF	ON	ON
87	Dcti Limit	2	0	3	2
88	Peak Beta	0	0	7	0
89	Peak Alpha	2	0	7	2
90	Peak Neg g	0	0	3	0
91	Peak Delta	0	0	3	0
92	Peak Tau	0	0	7	0
93	Peak Corth	0	0	15	0
94	Overlay V	0	0	15	0
95	Overlay U	0	0	15	0
96	Overlay Y	10	0	255	10
97	Sidep sta	240	0	255	240
98	Sidep eto	36	0	255	36
99	Y delay B	7	0	7	7
100	Invert UV	ON	OFF	ON	ON
101	Output Range	ON	OFF	ON	ON
102	Sidep Fdel	0	0	3	0

PIP					
No	Descr.	Def	Min	Max	Data
1	Freeze	OFF	OFF	ON	OFF
2	Frame	ON	OFF	ON	ON
3	Pipon	ON	OFF	ON	OFF
4	Seldel	1	0	15	1
5	Mixdis	ON	OFF	ON	ON
6	H-Poshi	0	0	3	0
7	H-Pos	137	0	255	137
8	V-Pos	59	0	255	59
9	Y-Delay	0	0	7	0
10	V-Dec	OFF	OFF	ON	OFF
11	H-Dec	OFF	OFF	ON	OFF
12	Insvh	ON	OFF	ON	ON
13	Chrins	ON	OFF	ON	ON
14	Pmod	0	0	3	0
15	Imod	0	0	3	0
16	Clisw	ON	OFF	ON	ON
17	H side	4	0	15	4
18	Vsileq	OFF	OFF	ON	OFF
19	Vsided	0	0	31	0
20	Parasynd	ON	OFF	ON	ON
21	Vspisq	OFF	OFF	ON	OFF
22	Vspdel	10	0	31	10
23	Con	1	0	15	1
24	Fry	8	0	15	8
25	Frv	3	0	15	3
26	Fru	4	0	15	4
27	Sel Down	OFF	OFF	ON	OFF
28	Frwidv	1	0	3	1
29	Frwidth	2	0	7	2
30	Mat	4	0	7	4
31	Daconst	OFF	OFF	ON	OFF
32	Plitc	1	0	3	1
33	Dacontle	OFF	OFF	ON	OFF
34	Left	83	0	255	83
35	RightHi	1	0	3	1
36	Right	192	0	255	192
37	Up	46	0	255	46
38	Down	189	0	255	189

Fig.4-10

Sound					
No	Descr.	Def	Min	Max	Data
1	Ref.Level	40	0	20	40
2	Auto-gain	ON	OFF	ON	ON
3	Ana-in	0	0	1	0
4	Corr-mute	ON	OFF	ON	ON
5	Clock out	ON	OFF	ON	ON
6	AM-gain	ON	OFF	ON	ON
7	Clip mode	0	0	2	0
8	SCART1 Vol	79	0	127	79
9	SCART2 Vol	79	0	127	79
10	SCART Pr	27	0	127	27
11	Izs1-pr	16	0	127	16
12	Izs2-pr	16	0	127	16
13	FM pr	27	0	127	27
14	BG Nic-pr	53	0	127	53
15	L Nic-pr	59	0	127	59
16	DK Nic-pr	53	0	127	53
17	I Nic-pr	97	0	127	97
18	Irl Nic-pr	97	0	127	97
19	AVC-Decay	2	0	8	2
20	Subw-vol	0	0	-127	0
21	Subw-freq	20	5	40	20
22	Subw-Hpuss	OFF	OFF	ON	OFF
23	Spat-stre	127	0	-1	127
24	Spat-Coeff	0	0	8	0
25	Bass offs	0	-3	3	0
26	Treble offs	0	-3	3	0
27	Loudn offs	0	0	9	0
28	Hp-voloffs	-2	-5	5	-2
29	M-S Limit	30	-128	127	30
30	M-B Limit	-30	-128	127	-30
31	S-M Limit	12	-128	127	12
32	S-B Limit	-20	-128	127	-20
33	B-M Limit	-12	-128	127	-12
34	B-S Limit	20	-128	127	20
35	Err.Max	40	0	255	40
36	Err.Min	14	0	255	18

Fig.4-11

Special Adjustment				
No	Descr.	Min	Max	Data
1	RGB Level	0	7	0
2	RGB Gain	0	31	9
3	RGB PatLevel	0	7	7
4	RGB Patgain	0	31	31
5	RGB H-position	-10	10	-1
6	Extra Fw	0	255	255
7	EPG Chks Check	OFF	ON	ON
8	Slicer High	OFF	ON	ON
9	FCW Wide	OFF	ON	ON
10	High PII	OFF	ON	OFF
11	Panic offset	0	2	0
12	Wide Mute	OFF	ON	ON

Fig.4-12

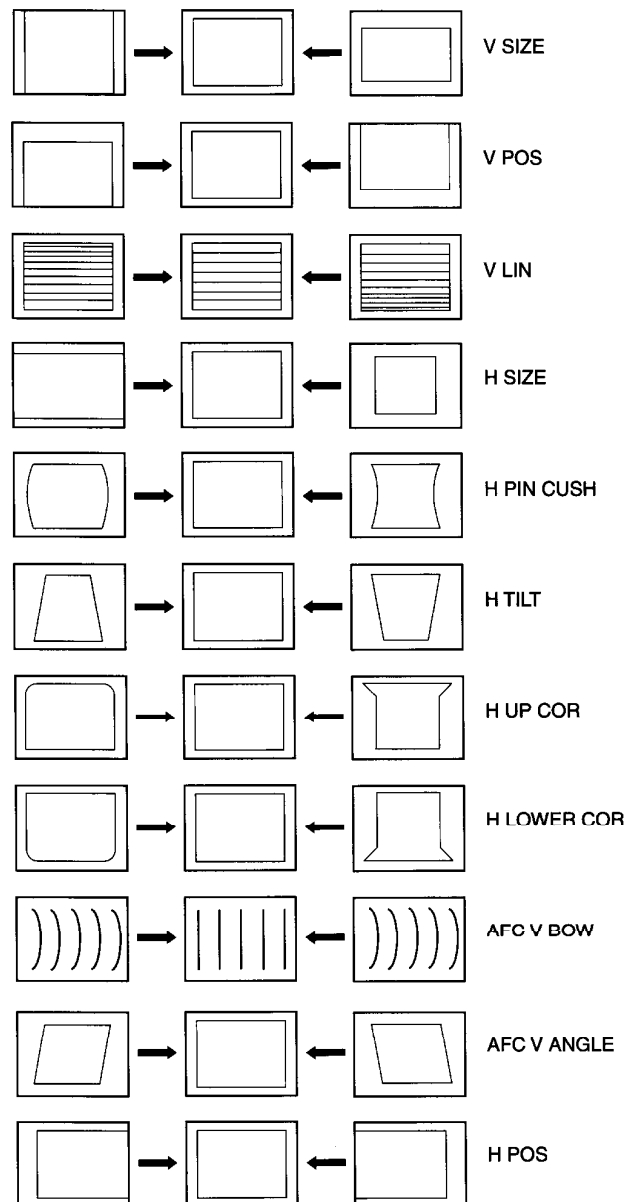
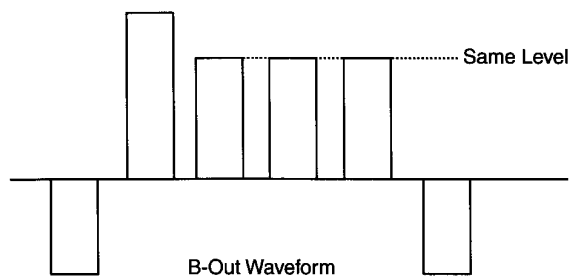
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode and select 'Deflection'. The 'Deflect' adjustment menu will be displayed.
2. Select and adjust each item to obtain the optimum image.

4-2.VOLUME ELECTRICAL ADJUSTMENTS

Sub Colour Adjustment

1. Input a PAL colour bar signal.
2. Connect an oscilloscope to CN5400 pin 5 on the C board.
3. Enter into the 'SERVICE MODE'.
4. Choose 'Backend'.
5. Adjust Sub Colour data so that the right sides of the waveforms are of equal height.



4-3. TEST MODE 2:

Is available by pressing 'TEST' button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0, 10, 20 ... twice or switch the TV set into Stand-by Mode. Pressing the two Local Control buttons (+ and -) during Power ON will also switch into 'TT' mode.

In 'TT' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the menu to reappear. The Function is kept even when the menu is not displayed !!.

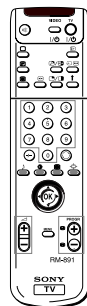
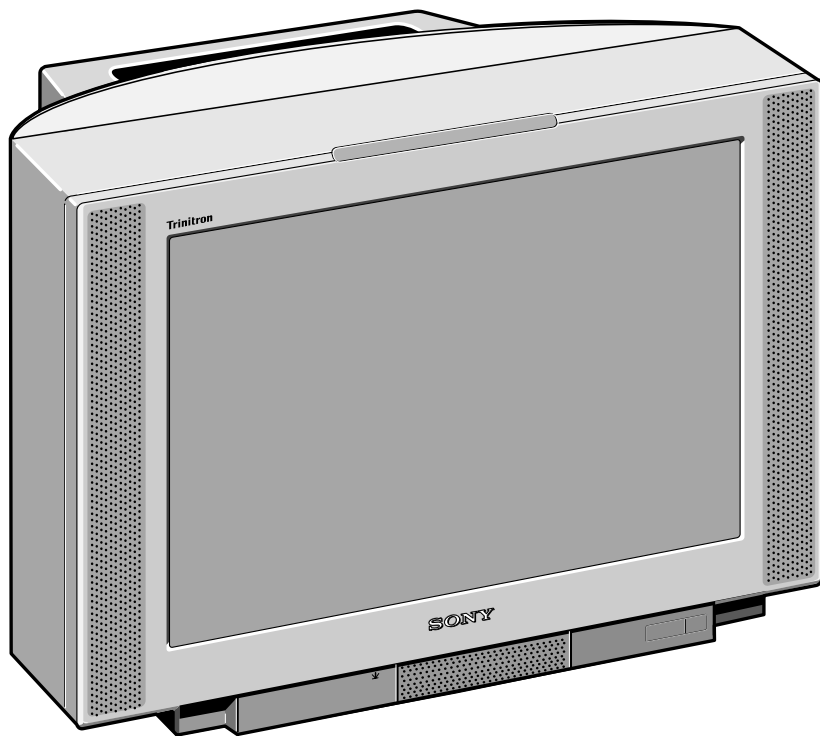
00	Switch back to normal mode - 'TT' mode off
01	Set picture maximum
02	Set picture minimum
03	Set speaker/headphone Volume to 30%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing Mode
08	Shipping Condition
09	Language Reset
10	No function
11	Sub picture adjustment
12	Sub colour adjustment
13	Display software version and TV set configuration
14	Production Info Display
15	Picture Rotation
16	Picture level 50%
17	Audio mute on
18	No function
19	Sub brightness adjustment
20	See 'TT10'
21	Destination A includes text settings, display TV status
22	Destination L includes text settings, display TV status
23	Destination E includes text settings, display TV status
24	Destination U includes text settings, display TV status
25	Destination D includes text settings, display TV status
26	Destination B includes text settings, display TV status
27	Destination K includes text settings, display TV status
28	Destination R includes text settings, display TV status
30	See 'TT10'
31	Geometry Adjustment 1
32	Geometry Adjustment 2
33	Error monitor
34	No function
35	CRT 4:3 < > 16:9 ; Display TV status
36	Line 23 detection switch
37	Velocity Modulation (VM) test
38	No function
39	No function
40	See 'TT10'

41	Screen mode check
42	Re initialise geometry
43	No function
44	No function
45	No function
46	Reserved for dealer commander
47	Re initialise NVM
48	Set NVM as non virgin
49	Set NVM as virgin
50	See 'TT10'
51	Set Dolby volume to 90%
52	Dolby on left speaker only
53	Dolby on right speaker only
54	Dolby on left centre only
55	Dolby on surround speaker only
56	No function
59	
60	See 'TT10'
61	Service mode
62	Production mode
65	Reset error codes
68	Ignore errors on
69	Ignore errors off
70	See 'TT10'
71	No function
72	
73	Clear programs
74	No function
79	
80	See 'TT10'
81	PAP H adjustment left image
82	PAP H adjustment right image
83	No function
86	
87	Personal ID reset
88	Parental Lock off
89	No function
90	See 'TT10'

SERVICE MANUAL

AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29FX60A	RM-891	Italian	SCC-Q12A-A	KV-29FX60E	RM-891	Spanish	SCC-Q14A-A
KV-29FX60B	RM-891	French	SCC-Q13A-A	KV-29FX60U	RM-891	UK	SCC-Q15A-A
KV-29FX60D	RM-891	AEP	SCC-Q11A-A				



MC-Service

TRINITRON® COLOR TV
SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H,D/K	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05,M1-M10,U1-U10 DK VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K,L,I	GERMAN/NICAM Stereo	L VHF : F02-F10 UHF : F21-F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G/H/ VHF : E2-E12 : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	29FX60A	29FX60B	29FX60D	29FX60E	29FX60U
Power Consumption	130W	130W	130W	130W	130W

[PICTURE TUBE]

Super Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured diagonally)
110 degree deflection

[FRONT]

Video output - phono jack
Audio inputs - phono jacks
S Video input - 4 pin din
Headphone jack : stereo minijack

Input/Output Terminals

[REAR]

21-pin Euro connector (CENELEC standard).

- Inputs for Audio and Video signals.
- Inputs for RGB.
- Outputs of TV Video and Audio signals.

21-pin Euro connector

- Inputs for Audio and Video signals.
- Inputs for S video.
- Outputs for Video and Audio signals (selectable).

21-pin Euro connector

- Inputs for Audio and Video signals.
- Inputs for S video.

Phono Jack

- Outputs for Audio Signals

External speaker terminals : 2-pin Din

Sound output

2x25W (Music Power)

Subwoofer

25W (Music Power)

Power requirements

220 - 240V

Dimensions

Approx 738x588x507mm

Weight

Approx 52kg

Supplied accessories

RM-891 Remote Commander (1)

IEC designated R6 battery (2)

Other features

NICAM*, FASTEXT, TOPTXT

* (KV-29FX60B/29FX60E/29FX60U only)

[RM-891]

Remote control system

Infrared control

Power requirements

3V dc

2 batteries IEC designation

R6 (size AA)

Dimensions

Approx 210x56x24mm (w/h/d)


Weight

Approx 110g (Not including battery)

Design and specifications are subject to change without notice.

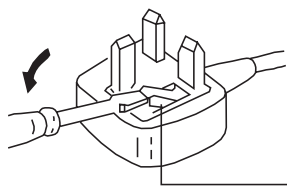
Model Name Item	KV-29FX60A	KV-29FX60B	KV-29FX60D	KV-29FX60E	KV-29FX60U
Pal Comb	OFF	OFF	OFF	OFF	OFF
PIP	ON	ON	ON	ON	ON
RGB Priority	ON	ON	ON	ON	ON
Woofers Box	ON	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	ON	ON	ON	ON	ON
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON
Language Preset	Italian	French	German	Spanish	English

WARNING (KV-29FX60U only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the  mark.

IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE OUTLET SOCKET.

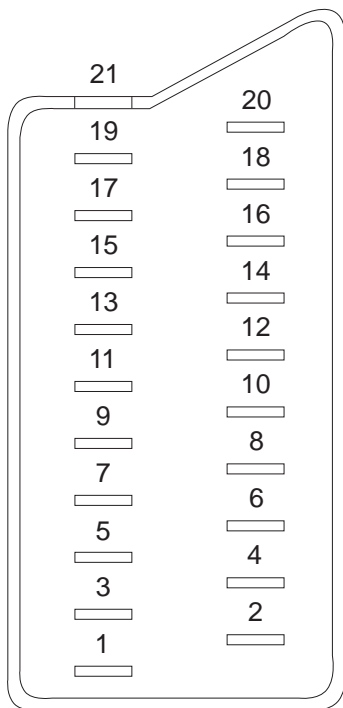
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with a screwdriver blade and replace the fuse.

MC-Service

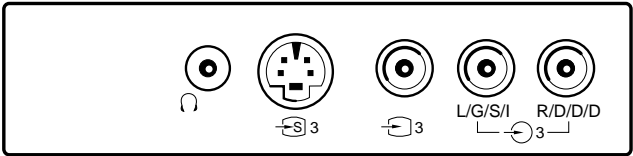
21 pin connector



Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75 ohm, positive Sync.



AE-5 SELF DIAGNOSTIC SOFTWARE

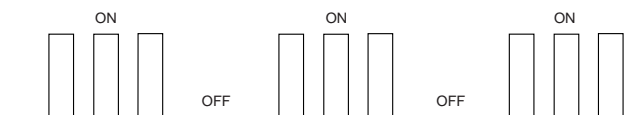
The identification of errors within the AE-5 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See table 1., non fatal errors are reported using this method.

Diagnostic Item Description	No of times Standby LED Flashes	Probable cause Location	Detected Symptoms
Power does not turn on	Does not light	Power cord is not plugged in Fuse is burned out	Power does not come on No power is supplied to the TV AC power supply is faulty
+B Overcurrent (OCP)	2 times	H.OUT (Q6803/6804) is shorted. (D Board) Linearity FET (Q6806) is shorted. (D Board) IC6604 Power IC is shorted. (D Board)	Power does not come on Load on power line has shorted
Vertical Deflection stopped	4 times	+15V is not supplied R6835 open (D Board) -15V is not supplied R6834 open (D Board) IC6700 is shorted (D Board)	Vertical deflection pulse has stopped Power line has shorted

ERROR	LED ERROR COUNT
No error	00
Not allowed (may be confused with Sircs response flash!)	01
Over Current Protection	02
Over Voltage Protection	03
Vertical Protection	04
AKB	05
H - Protection	06
Speaker Protection	07
General IIC Line 0 error	08
MEGATEXT	09
NVM	10
Main colour decoder	11
Feature Box	12
D/A converter	13
Backend	14
Multi sound processor	15
Auto Wide	16
External RAM	17

Flash Timing Example : e.g. error number 3

StBy LED



ERROR DETECTION MONITOR

Device acknowledge is used to check IIC errors. Device acknowledge is checked by sending an IIC start sequence during CRT power on. Each device is checked three times, if there is no acknowledge after every attempt, it will be regarded as an error.

There are three steps to check errors

1. IIC line 0
If all devices except the NVM have errors, IIC line 0 error is displayed
2. Board check
If all devices mounted on one board have errors, board error is displayed
3. Each device check
If IIC line error and board error are not detected then the device with an error is displayed

The detected errors can be displayed as follows:

1. Error Monitor Menu
2. Error Reader

1. ERROR MONITOR MENU

The error monitor menu is displayed by selecting TT33. The following menu will be displayed:

ERROR MONITOR

Operating Time :
930360h 15h

Saved Errors :

1. 100h = A-Board
2. 401h = BP-B CXD2069 MID
3. 704h = J-B TDA9320 Main Col Dec
4. 000h = no error occurred
5. 000h = no error occurred

Actual Error :

New error code sequence is starting

Ignore Errors : [off]

2. ERROR READER DISPLAY

The error reader display is connected to the service connector to read actual error codes. The part number for the error reader display is S-188-900-10. Once an error has been detected it will then be displayed on the two digit error reader. The errors displayed refer to the following table :

Send Data to Error Reader				
Error Code	Data high	Data Low	Error type	Function
00 00h	-	f0h	no device	
Gen.IIC Error				
00 01h	f0h	01h	IIC 0 line	
00 02h	f0h	02h	IIC 1 line	not used
Board Error				
01 00h	f1h	00h	A Board	
02 00h	f2h	00h	B1 Board	
03 00h	f3h	00h	B2 Board	
04 00h	f4h	00h	BP Board	
05 00h	f5h	00h	D1 Board	
06 00h	f6h	00h	E Board	
07 00h	f7h	00h	J Board	
Device Error				
A Board				
01 01h	f1h	01h	CXA1875	Port Expander
01 02h	f1h	02h	TU1326	Main Tuner
01 03h	f1h	03h	TU1350	Sub Tuner
B1 Board				
02 01h	f2h	01h	P83C654	Feature Box
02 02h	f2h	02h	SDA9280	D/A Converter
B2 Board				
03 01h	f3h	01h	SAA4977	Basic
03 02h	f3h	02h	SAA4950	Memory
BP Board				
04 01h	f4h	01h	CXD2069	MID
D1 Board				
05 01h	f5h	01h	CXA8070	Dynamic Conv.
05 02h	f5h	02h	CXA1875	Port Expander
E Board				
06 01h	f6h	01h	CXD2100	Backend
J Board				
07 01h	f7h	01h	CXD2057	Auto Wide
07 02h	f7h	02h	SDA9288	PIP
07 03h	f7h	03h	TDA9320	Sub Colour
07 04h	f7h	04h	TDA9320	Main Colour
07 05h	f7h	05h	CXA1875	Sub Sound
07 06h	f7h	06h	TDA7309	HP Amp
07 07h	f7h	07h	TEA6422DT	Audio SW
07 08h	f7h	08h	MSP3410D	Sound Proc
07 09h	f7h	09h	TC9337F	Sound DSP

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÛRETÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÛRETÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Overview

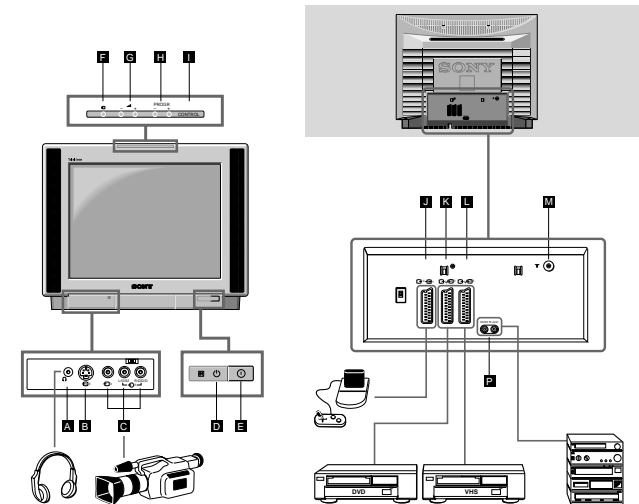
i This section briefly describes the buttons and controls on the TV set and the Remote Control. Open the flaps at the front and back of this Instruction Manual for detailed illustrations. For more information refer to the page numbers given in the overview.

Remote Control

Symbol	Description	See page
1 TV/⏻	TV: standby mode on/off	32
2	TV: on-screen display	32
	Teletext: index page	42
3	Selecting of input source	44
	Teletext: Freezing a subpage	42
4	PIP: Swapping the screens	41
5	PIP: Selecting the source	41
6	PIP: Switching on and off	41
7 1, 2, ... 9, 0	Number buttons	32
8	Back to the channel last selected	32
9	Selecting of screen format	32
10	No function on this set	
11	Joystick for menu selection	31
	Press OK to confirm	
12 MENU	Switching on and off of Menu system	31
13	TV: Channel selection up- and downwards	32
	Teletext: Page selection up-and downwards	42
14	Volume control	32
15	Picture mode	32
16	Equaliser mode	32
17	Selection of double digit channel numbers	32
18	Freezing of TV picture	32
19	No function on this set	
20	Teletext: Switching on	42
21	TV: Selecting of TV mode	32
	Teletext: Switching off	42
22	Muting of sound on/off	32
23 VIDEO/⏻	VCR: Standby mode	45
Buttons under cover		
24	Displaying of the time	32
25 CH +/-	VCR operation	45
VTR 1 2 3 4 MDP	Video equipment selector	
	Buttons for VCR operation	
26	Resetting of picture setting	32

TV-set – front and top

Symbol	Description	See page
A	Headphone jack	46
B	S-video input jack	44
C	Phono video/audio inputs	44
D	Indicator for Standby mode	32
E	Power switch	32
F	Selecting of input source	44
G	Volume control	32
H	Channel selection up- and downwards	32
I	Control panel: Switching on/off	32



TV-set – rear

Symbol	Description	See page
J	21-pin Euro connector (Scart)	44
K	21-pin Euro connector (Scart)	44
L	21-pin Euro connector (Scart)	44
M	Aerial socket	30
N	Audio phono jacks	46

First Time Operation

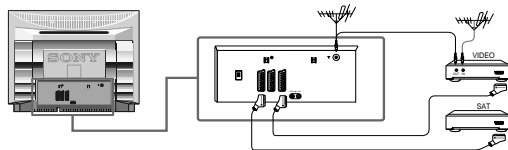
i The following chapter contains all the steps necessary when first installing your TV and the basic TV functions.

Step 1 Installation

A Connecting the TV Set

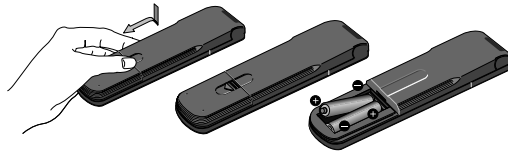
- 1 Connect the TV set to the mains socket (220-240 V. AC, 50 Hz).
- 2a Connect a conventional aerial cable to the socket marked **T** **M** on the rear of the TV set.
or
- 2b Connect your Satellite Receiver to one of the Scart connectors **J** **K** **L** of the TV set.

i **When connecting a VCR to your TV set:**
We recommend that you use the preset function Manual Programme Preset (page 33) to tune in the VCR signal to programme position 0.



B Inserting the Batteries into the Remote Control

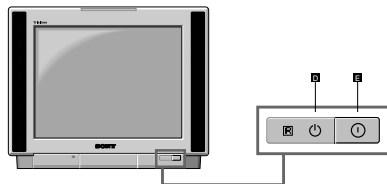
A Make sure to insert the batteries using the correct polarities.
Dispose of exhausted batteries according to your local regulations.



C Switching on the TV Set

- Press the switch **⏻** **E** at the front of the TV set.

i If the standby mode indicator **⏻** **D** on the TV is lit, press TV I / **⏻** **1** on the Remote Control to switch on the TV set.

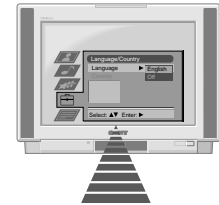
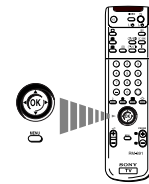


Step 2 Basic Presetting

A The Menu System

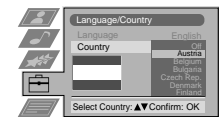
i Your TV uses an on-screen menu system to guide you through the operations.
Use the following buttons on the Remote Control to operate the menu system:

- Press MENU **⏻** to switch the menu on and off.
- Use **⏻**, **▶**, **▲**, **▼** of the joystick **1** to select within the menu system.
- Press OK to store.
- When menu is switched off:
Press **⏻** to return to the last menu screen.



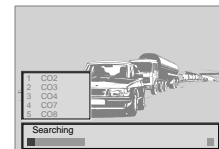
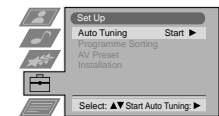
B Selecting Language and Country

- 1 Press the MENU **⏻** button.
A The menu Language/Country appears on the screen.
- 2 Push the joystick **1** to **▶**. Push the joystick **1** to **▼** to select the language.
Press OK **1**.
A The menus appear in the selected language.
- 3 Push the joystick **1** to **▼** to select Country. Push the joystick **1** to **▶**.
- 4 Select the country in which you will operate the TV set using **▼** or **▲**.
Confirm by pressing OK **1**.
A The menu Auto Tuning appears.



C Automatic Tuning In of Channels


- Push the joystick **1** to **▶**.
A After all available channels are stored, the TV goes back to the programme position with which you started the automatic tuning. Your TV is now ready for use.
- To stop the automatic tuning: Press OK **1**.
- If you wish to change the sequence of the stored channels, go to Sorting Programme Positions in Advanced Presetting.
- If you need to change or repeat the tuning afterwards (e.g. when you move house) : select the menu Auto Tuning in the Set Up **⏻** menu.




Advanced Operation

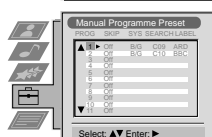
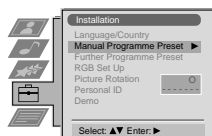
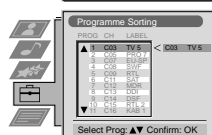
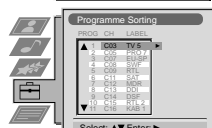
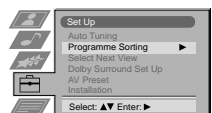
Advanced Presetting

Sorting of Programme Positions

- After having used Automatic Tuning of channels you may wish to rearrange the order of the channels.
- Press MENU. Select the symbol  using ▼. Push to ►.
- Select Programme Sorting using ▼. Push to ► to enter.
- Select the programme position of the channel you wish to sort using ▲ or ▼. Push to ► to enter.
- Move the channel to the new programme position using ▲ or ▼. Store by pressing OK.
- The channel is now at the new position. The other programme positions move accordingly.
- To sort other programme positions repeat steps 3 to 4.
- Press MENU to return to the normal TV screen.

Manual Tuning In of Channels


- Use this function to preset channels or a video input source one by one to programme positions of your choice.
 - Press MENU. Select the symbol  using ▼. Push to ►.
 - Select Installation using ▼. Push to ► to enter.
 - Select Manual Programme Preset using ▼. Push to ► to enter.
 - Select the programme position by pushing to ▲ or ▼. Push twice to ►.
 - The column SYS is highlighted.
 - Select the TV system using ▲ or ▼. Push to ► to enter.
 - Available TV systems are B/G for western European countries, D/K for eastern European countries, EXT for a video input source (please go to step 5c after selecting EXT)
 - The column SEARCH is highlighted.
 - Select your method for the channel tuning using ▲ or ▼. Push to ► to enter.
 - You have the choice between C for a terrestrial channel, S for a cable channel, F for direct frequency input.
 - Direct Channel Input - S, C or F**
 - For channel numbers input a two digit number, for the channel frequency a three digit number.
 - Select the two or three digits by using the number buttons 0 to 9.
 - To start the search and to store the channel, press OK.
 - To preset other channels repeat steps 3 to 5a.
 - Channel search (SEARCH)**
 - Use Search if you do not know the channel number or frequency
 - Start the search for the next available channel by pushing to ▼.
 - Store the channel by pressing OK or continue the search by pushing again to ▼.
 - To search for other channels repeat steps 3 to 5b.
 - For video input sources (EXT)**
 - Select the Video Input source using ▲ or ▼.
 - Store your selection by pressing OK.
 - To allocate other sources repeat steps 3 to 5c.
- Press MENU to return to the normal TV screen.




Advanced Operation

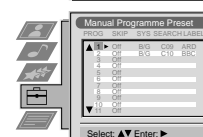
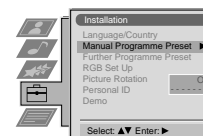
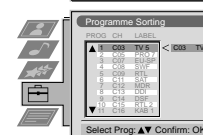
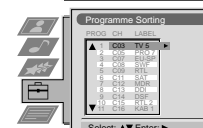
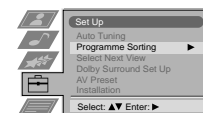
Advanced Presetting

Sorting of Programme Positions

- After having used Automatic Tuning of channels you may wish to rearrange the order of the channels.
- Press MENU. Select the symbol  using ▼. Push to ►.
- Select Programme Sorting using ▼. Push to ► to enter.
- Select the programme position of the channel you wish to sort using ▲ or ▼. Push to ► to enter.
- Move the channel to the new programme position using ▲ or ▼. Store by pressing OK.
- The channel is now at the new position. The other programme positions move accordingly.
- To sort other programme positions repeat steps 3 to 4.
- Press MENU to return to the normal TV screen.

Manual Tuning In of Channels


- Use this function to preset channels or a video input source one by one to programme positions of your choice.
 - Press MENU. Select the symbol  using ▼. Push to ►.
 - Select Installation using ▼. Push to ► to enter.
 - Select Manual Programme Preset using ▼. Push to ► to enter.
 - Select the programme position by pushing to ▲ or ▼. Push twice to ►.
 - The column SYS is highlighted.
 - Select the TV system using ▲ or ▼. Push to ► to enter.
 - Available TV systems are B/G for western European countries, D/K for eastern European countries, EXT for a video input source (please go to step 5c after selecting EXT)
 - The column SEARCH is highlighted.
 - Select your method for the channel tuning using ▲ or ▼. Push to ► to enter.
 - You have the choice between C for a terrestrial channel, S for a cable channel, F for direct frequency input.
 - Direct Channel Input - S, C or F**
 - For channel numbers input a two digit number, for the channel frequency a three digit number.
 - Select the two or three digits by using the number buttons 0 to 9.
 - To start the search and to store the channel, press OK.
 - To preset other channels repeat steps 3 to 5a.
 - Channel search (SEARCH)**
 - Use Search if you do not know the channel number or frequency
 - Start the search for the next available channel by pushing to ▼.
 - Store the channel by pressing OK or continue the search by pushing again to ▼.
 - To search for other channels repeat steps 3 to 5b.
 - For video input sources (EXT)**
 - Select the Video Input source using ▲ or ▼.
 - Store your selection by pressing OK.
 - To allocate other sources repeat steps 3 to 5c.
- Press MENU to return to the normal TV screen.

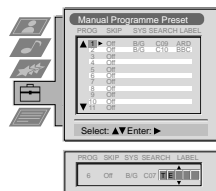


Advanced Presetting

Captioning a Station Name


- ① During presetting the channels are usually labelled automatically. You can, however, individually name a channel or a video input source.

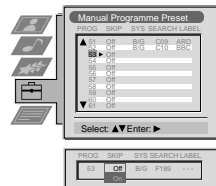
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
- 2 Select Installation using ▼. Push to ► to enter. Select Manual Programme Preset using ▼. Push to ► to enter.
- 3 Select the programme position of the channel or the video source you wish to label by pushing to ▼ or ▲. Push repeatedly to ► until the first element of the position LABEL is highlighted.
- 4 Select a number, a letter, + or a blank using ▲ or ▼. Push to ► to confirm. Select the other four characters in the same way.
- 5 Store your selection by pressing OK.
- 6 To label other channels or video sources repeat steps 3 to 5.
- 7 Press MENU to return to the normal TV screen.



Skipping of Programme Positions


- ① In case of 100 programme positions there may be unused positions, which you can skip in the menu Manual Programme Preset. When changing channels with the PROGR +/- buttons they do then not appear. You can, however, still select them using the number buttons.

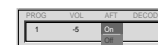
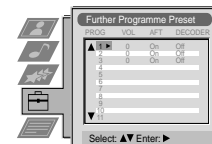
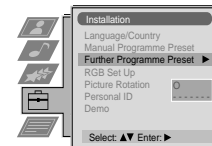
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
- 2 Select Installation using ▼. Push to ► to enter. Select Manual Programme Preset using ▼. Push to ► to enter.
- 3 Select the programme position you wish to skip by pushing to ▲ or ▼. Push to ► to enter.
- ② The column SKIP is highlighted.
- 4 Select ON using ▼.
- 5 Store by pressing OK.
- 6 To skip other programme positions repeat steps 3 to 5.
- 7 Press MENU to return to the normal TV screen.



Advanced Presetting

Using of Further Programme Preset

















- ① Using the menu Further Programme Preset you can
- a) individually adjust the volume level of each channel.
 - b) improve the quality of a weak channel (picture or sound distortions) with manual fine tuning.
 - c) preset the AV output for programme positions of those channels with scrambled signals (e.g. from a Pay TV decoder). In this way a connected VCR records the unscrambled signal.
- 1 Press MENU. Select the symbol  using ▼. Push to ►.
 - 2 Select Installation using ▼. Push to ► to enter. Select Further Programme Preset using ▼. Push to ► to enter.
 - 3 Select the programme position of the desired channel by pushing to ▲ or ▼. Push repeatedly to ► to select: VOL (Volume Offset), AFT (Automatic Fine Tuning) or DECODER.
 - ② The selected item changes colour.
 - 4a VOL
Push to ▲ or ▼ to adjust the volume level (range -7 to +7) of the channel. Store by pressing OK. Repeat steps 3 and 4a if you wish to adjust the volume level of other channels.
 - 4b AFT
Push to ▼ to select OFF. Push to ► to enter Manual Fine Tuning. Push to ▲ or ▼ to fine tune the channel (range -15 to +15). Store by pressing OK. Repeat steps 3 and 4b if you wish to fine tune other channels.
 - 4c DECODER
Push to ▲ or ▼ to select AV1 (Euro AV socket 1) or AV2 (Euro AV socket 2) as output for the video source on this programme position. Store by pressing OK. Repeat steps 3 and 4c if you wish to preset the AV output of other video sources.
 - ③ Should you use Auto Tuning afterwards, this setting will be cancelled.
 - 5 Press MENU to return to the normal TV screen.

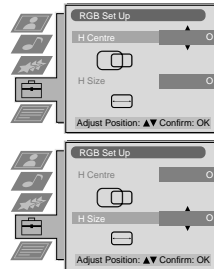


Advanced Presetting

Adjusting the Picture Geometry for an RGB Source










i When connecting an RGB source such as a Sony playstation you may need to readjust the picture geometry.

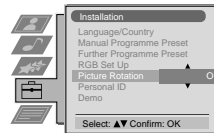
- 1 Select the connected RGB source  by pressing  repeatedly.
- 2 Press MENU. Select the symbol  using . Push to .
- 3 Select Installation using . Push to  to enter. Select RGB Set Up using . Push to  to enter.
- 4 Select H Centre by pushing to . Adjust the centre of the picture (range from -5 to +5) using  or . Store by pressing OK.
- 5 Select H Size using . Push to  to enter. Adjust the horizontal coordinates (range from -5 to +5) using  or . Store by pressing OK.
- 6 Press MENU to return to the normal TV screen.



Adjusting the Picture Rotation

i Because of the earth magnetism the picture might slant. In this case you can readjust the picture.











- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select Installation using . Push to  to enter. Select Picture Rotation using . Push to  to enter.
- 3 Adjust the Picture Rotation (adjusting range -4 to +4) by pushing to  or . Store by pressing OK.
- 4 Press MENU to return to the normal TV picture.

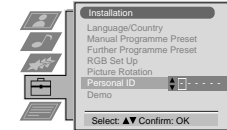


Advanced Presetting

Inputting Your Personal ID























i You can programme your TV with a safety code, so that you can be traced if your TV is stolen and recovered. This code can only be input once! Make sure to write it down in this Instruction Manual.

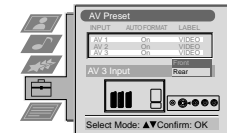
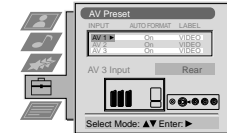
- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select Installation using . Push to  to enter. Select Personal ID using . Push to  to enter.
- 3a Select the first of a total of 11 characters (letter, number, + or a blank) by using  or .
- b Push to  to go to the next character.
- c Repeat a and b for all characters.
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.



Presetting and Labelling of Input Sources

i Using AV Preset you can select the automatic format function and label an input source.



- 1 Press MENU. Select the symbol  using . Push to .
- 2 Select AV Preset using . Push to  to enter.
- 3 Select the desired AV input (AV 1, 2 or 3) using  or . Push to  to enter.
- i** After each step you have the choice between memorizing (press OK) or going to the next item (push to ).
- 4 **For automatic format selection of the AV input:**
 - a Push to  to select Auto Format.
 - b Select On or Off using  or .
- 5 **To label the source:**
 - a Push to  to select Label.
 - b Select the first character using  or . Push to  to confirm.
 - c Repeat step b to select the other 4 characters.
 - d Store by pressing OK.
- 6 Repeat steps 3 to 5 for the other AV inputs.
- 7 **Selecting the AV3 Input Source:**
 - a In case of AV3 you have the choice between the front AV3 sockets  or the rear Scart 3  connector.
 - b Push to  to select AV3 Input. Push to  to enter.
 - c Select Front or Rear using  or .
 - c Store by pressing OK.
- 8 Press MENU to return to the normal TV screen.



Advanced TV operation

Adjusting Picture and Sound

i Picture and sound are adjusted at the factory. You can, however, adjust them individually.

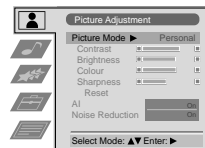
- 1 Press MENU.
Select the symbol  for Picture or  for Sound using ▲ or ▼.
Push to ► to enter.

▶ The menu Picture or Sound Control is displayed.

- 2 Select the desired item using ▲ or ▼. Push to ► to enter.
- 3 Adjust the selected item using ▲, ▼, ► and ◀. Press OK to store.

i Refer to the tables on this and the following page for more information.

- 4 Repeat steps 2 and 3 to adjust other items.
- 5 Press MENU to return to the normal TV screen.

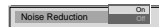
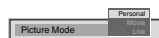


Picture Control

Item	Effect/Operation
Picture Mode	▼ Personal (for individual settings) Movie (for movie broadcasts) ▲ Live (for live broadcasts)
Contrast	Less ◀ ▶ More
Brightness*	Darker ◀ ▶ Brighter
Colour*	Less ◀ ▶ More
Hue**	Greenish ◀ ▶ Reddish
Sharpness*	Softer ◀ ▶ Sharper
Reset	Resets picture to the factory preset levels
AI	▼ Off: normal ▲ On: Automatic optimization of contrast level according to the TV signal
Noise Reduction	▼ Off: Normal ▲ On: Reduces picture noise in case of a weak broadcasting signal

* Only if Personal is selected in Picture Mode

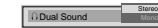
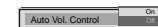
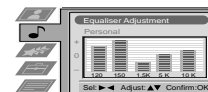
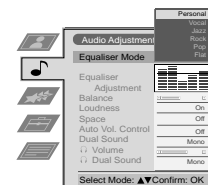
** Only available for NTSC colour signal (e.g. US video tapes)



Advanced TV operation

Sound Control

Item	Effect/Operation
Equaliser Mode	Select between the following sound settings ▲ Personal Vocal Jazz Rock Pop ▼ Flat (fixed setting, cannot be adjusted)
Equaliser adjustment	i You can adjust the mode selected in Equaliser mode by cutting and boosting of 5 selected frequency bands. ⚠ Only the changes made in Personal can be stored, the others return to factory setting. Select the desired bar using ► or ◀, adjust using ▲ and ▼. Press OK to store.
Balance	▲ More left ▼ More right
Loudness	▲ Off: Normal ▼ On: For music broadcasts
Space	▲ Off: Normal ▼ On: Special accoustic effect
Auto Volume Control	▼ On: volume level of the channels will stay the same independent of the broadcast signal (e.g. in case of advertisements) ▲ Off: volume level changes according to the broadcast signal
Dual Sound	• For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2 • For a stereo broadcast: Stereo ◀ ▶ Mono i For a Nicam broadcast: When receiving a Nicam broadcast »NICAM« appears briefly on the screen.
Headphones	Less ◀ ▶ More
Volume	• For a bilingual broadcast: A for channel 1 ◀ ▶ B for channel 2 • For a stereo broadcast: Stereo ◀ ▶ Mono
Dual Sound	• PIP i When PIP is switched on, you can additionally select the PIP sound for the headphones

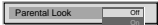
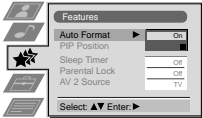


Advanced TV operation

Using the Features Menu

- 1 Press MENU. Select the symbol using ▼. Push to ►.
- 2 Select the desired menu item using ▼. Push to ► to enter.
- 3 Select the desired setting using ▲ or ▼.
- 4 Store by pressing OK.
- 5 Press MENU to return to the normal TV screen.

Features		
Item	Effect/Operation	
Auto Format	▼ On: Automatic selection of the screen format	▲ Off: Normal mode
PIP Position	See next page for details	
Sleep Timer	<p>i You can select a time period after which the TV switches itself into standby mode</p> <p>▼ Off</p> <p>10 min.</p> <p>20 min.</p> <p>...</p> <p>▲ 90 min.</p>	
Parental Lock	▼ Off: Normal mode	▲ On: TV can only be switched on out of standby-mode using the Remote Commander, the buttons on the TV do not work.
AV2 Source	<p>i You can select the source to be output from the Scart connector 2/3. In this way you can record from this socket while watching another source.</p> <p>▼ TV audio/video signal from the aerial</p> <p>AV1 audio/video signal from Scart 1</p> <p>AV2 audio/video signal from Scart 2</p> <p>▲ AV3 audio/video signal from front or rear connectors</p>	



Advanced TV operation

Using Picture-in-Picture

- i** Picture-in-Picture (PIP) lets you display a second, small screen within the main TV picture. In this way you can watch the video output from any connected equipment, e.g., from a VCR, while watching TV.

Switching PIP on and off

- Press **PIP**.
- TV** The small screen is displayed.
- i** The source of the small screen is the one last used when the TV was on.
- Press **PIP** again to switch PIP off.

Selecting a PIP source

- 1 Press **PIP**.
- TV** The symbol **PIP** is displayed in the bottom left-hand corner of the screen.
- 2 Press **PIP** repeatedly until the desired source appears.

- i** You can select between TV, AV1, AV2, YC2, AV3 and YC3.
- If no video source (e.g. VCR or Camera) is connected, the PIP will be noisy.
- You cannot display an RGB source in the PIP.

Swapping the screens

- Press **PIP**.
- TV** The two screens are swapped.

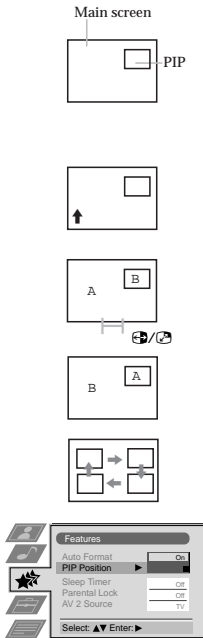
Changing channels if the TV picture is in the PIP

- First press **PIP**, then the respective number buttons.

Changing the PIP position

- i** There are four different positions of the small screen within the main screen. Select the PIP position in the Features menu.

- 1 Press MENU. Select the symbol using ▼. Push to ► to enter.
- 2 Select PIP position by pushing to ▼. Push to ► to enter.
- 3 Select the desired position using ▼ or ▲. Press OK to select.
- 4 Press MENU to return to the normal TV screen.



Teletext

Most TV channels broadcast information via teletext. The index page of the teletext service (usually page 100) gives you information on how to use their service.

! Make sure to use a TV channel with a strong signal, otherwise there may be Teletext errors.

Direct Access Functions

Switching Teletext on and off

- 1 Select the TV channel which carries the teletext service you want to view.
- 2 a Press once to switch teletext on.
The teletext menu is displayed.
b Press twice for Mix mode.
The TV broadcast and the Teletext display are overlapped.
- 3 Press or press a third time to switch teletext off.

Selecting a Teletext Page

Direct Page Selection

- Input the three digits of the page number using the number buttons .
- If you have made a mistake:
Type in any three digits, then reenter the correct page number.

Page Catching

- 1 Select a teletext page which has several page numbers on it (e.g., the index page).
- 2 Press OK .
Page Catching is displayed at the top of the page.
- 3 Select the desired page number using or and press OK.
The requested page is displayed after some seconds.

Selecting the next or the preceding page

- Press (Page +) or (Page -).

Selecting the index page

- Press .

Selecting a subpage

- A teletext page may consist out of several subpages. In this case an information line is displayed, showing the number of the subpages.
- Select the mode by pushing to . Select the subpage by using or .

Freezing a Teletext subpage

- 1 Press or .
The symbol is displayed and the subpage is not updated.
- 2 Press to resume normal teletext reception.

Using Fastext*

*depending on availability of service

- Fastext lets you access pages with one button stroke. When Fastext is broadcast, a colour-coded menu appears at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Control .
- Press the coloured button which corresponds to the colour in the colour-coded menu.

Teletext

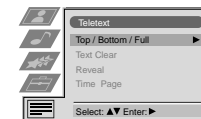
Using the Teletext Menu

- This TV set has a menu-guided teletext system. When teletext is switched on you can use the joystick buttons to operate the teletext menu.
- Select the menu functions as follows:

- 1 Press MENU .
- The Teletext menu is superimposed on the teletext display.
- 2 Select the teletext function using or . Push to to enter.

Top/Bottom/Full

- For convenient reading of a Teletext page you can enlarge it.
- After having selected the function, a sub menu Top Bottom Full OK is displayed.
- Push to to enlarge the upper half of the screen, push to to enlarge the lower half. Press OK to resume the normal size.



Top: Bottom: Full: OK

Text Clear

- After having selected the function, you can watch a TV channel while waiting for a requested Teletext page. As soon as the page is available, the symbol changes colour.
- Press to view the page.



Reveal

- Some teletext pages contain hidden information (e.g., for a quiz), which you can reveal.
- After having selected the function, the hidden information appears.
- Press to resume the normal Teletext operation.

Time Page*

*depending on availability of service

- You can call up a time-coded page - such as an alarm page - at a time specified by you.

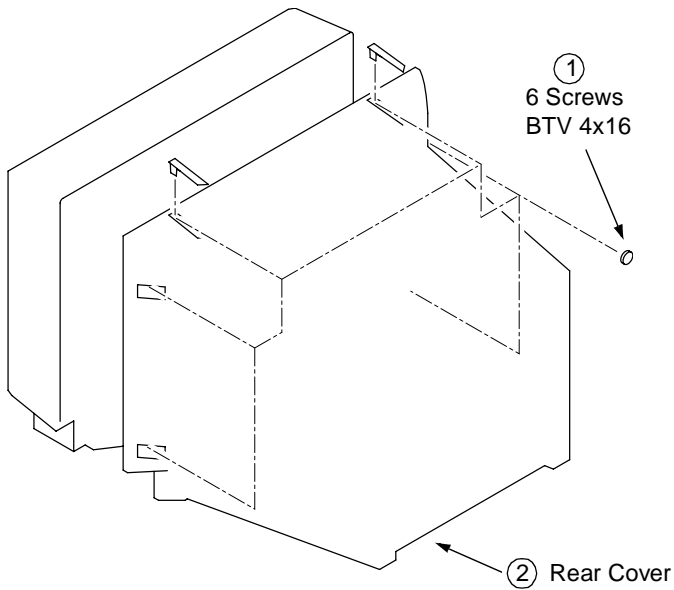
After having selected the function a sub menu is displayed.

- 1 Select On using or . Push to to enter.
 - 2 Enter the three digits of the desired page using the number buttons . Push to after each digit.
 - 3 Enter the four digits of the desired time using the number buttons . Push to after each digit.
 - 4 Press OK to store.
- The time is displayed in the top left-handed corner of the screen. At the requested time the page is displayed.

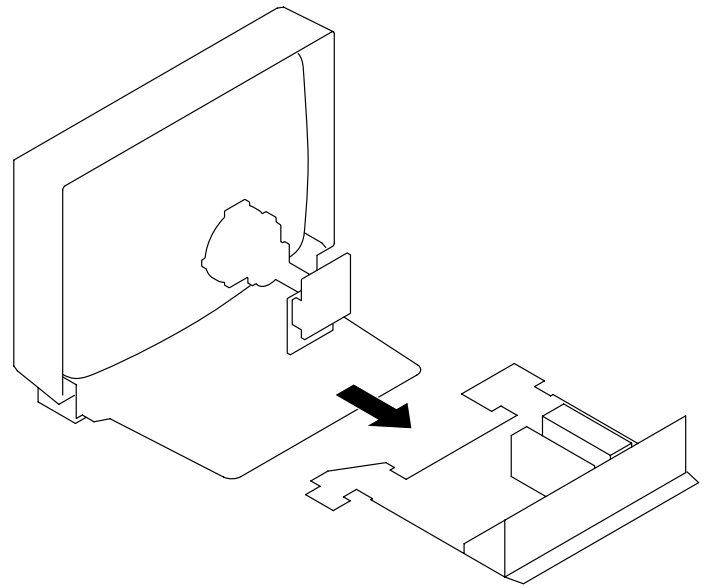


SECTION 2 DISASSEMBLY

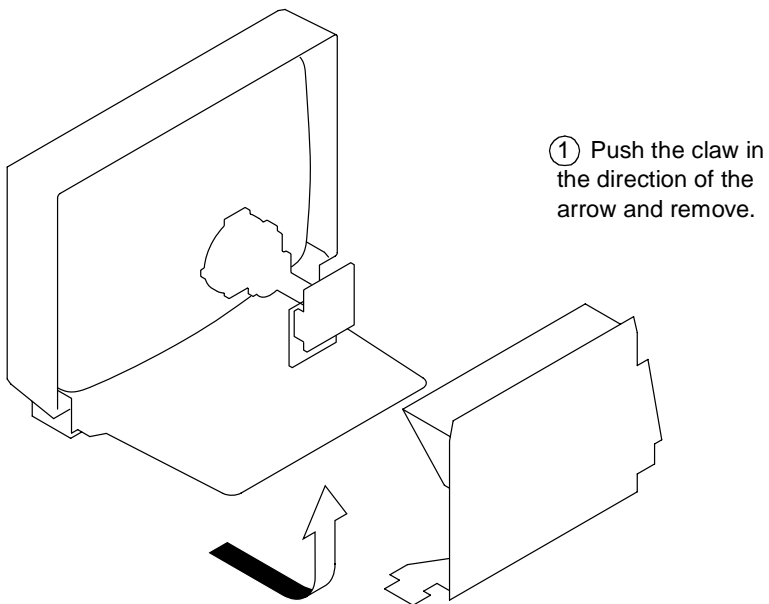
2-1. REAR COVER REMOVAL



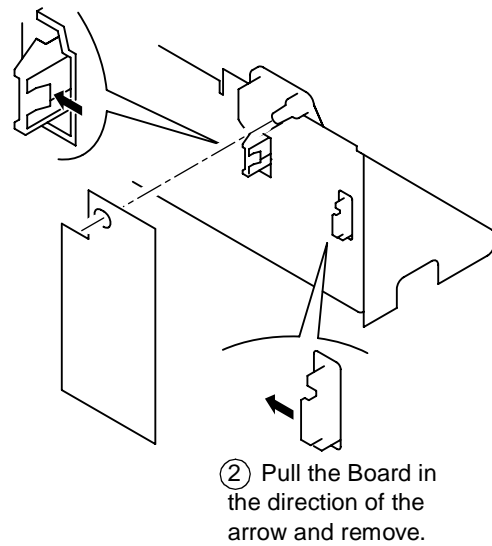
2-2. CHASSIS ASSY REMOVAL



2-3. SERVICE POSITION

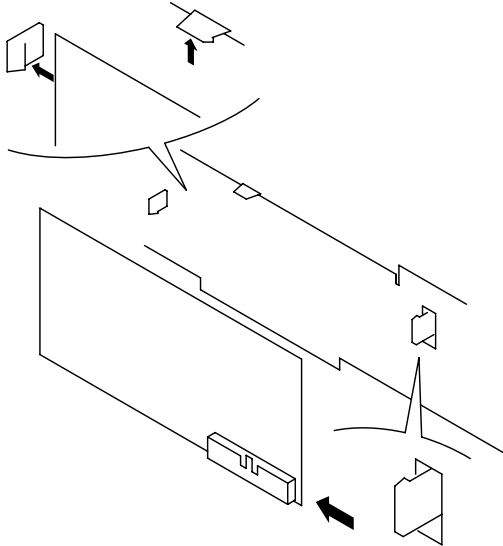


2-4. U BOARD REMOVAL



2-5. J BOARD REMOVAL

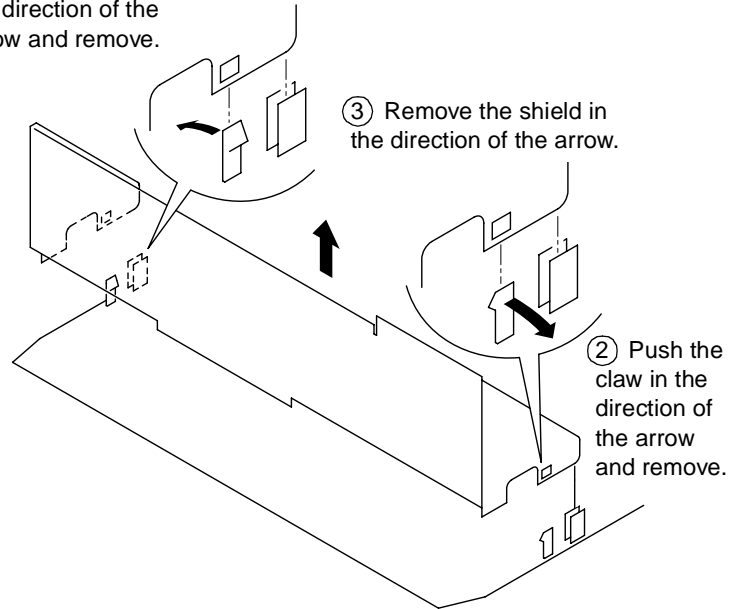
① Push the claw in the direction of the arrow and remove.



② Pull the Board in the direction of the arrow and remove.

2-6. J SHIELD REMOVAL

① Push the claw in the direction of the arrow and remove.



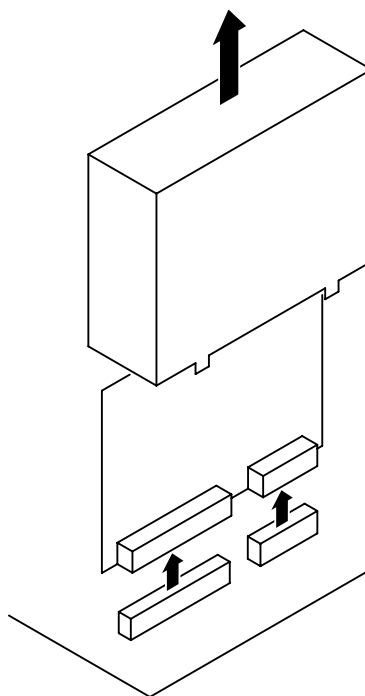
③ Remove the shield in the direction of the arrow.

② Push the claw in the direction of the arrow and remove.

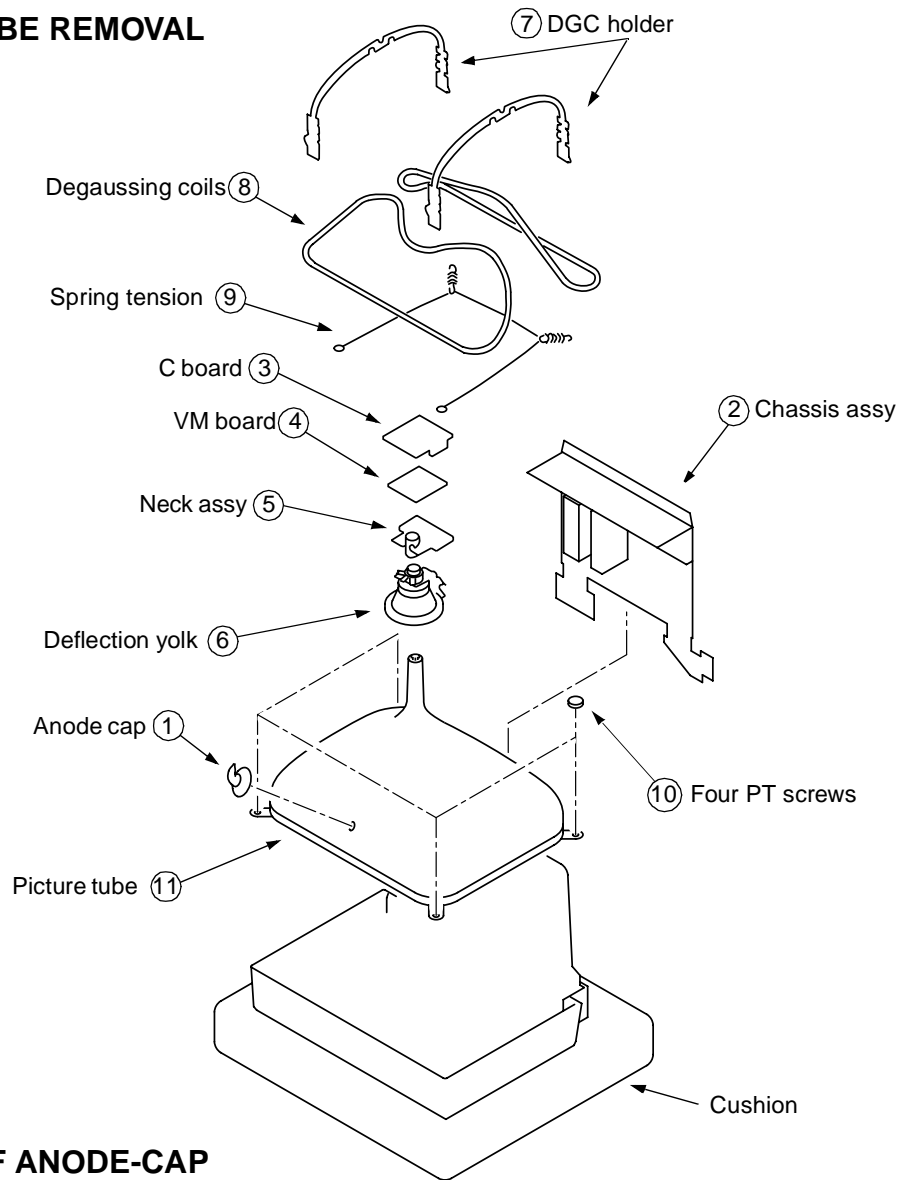
2-7. B2 BOARD REMOVAL

NOTE

All other boards are removed in a similar manner to those shown



2-8. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

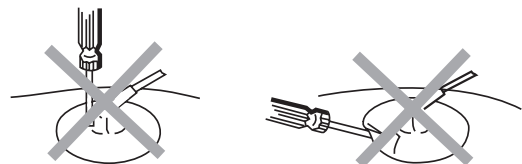
Note : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

* REMOVING PROCEDURES.

-
- ①** Turn up one side of the rubber cap in the direction indicated by the arrow **a**
 - ②** Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow **b**
 - ③** When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow **c**

• HOW TO HANDLE THE ANODE-CAP

- ①** To prevent damaging the surface of the anode-cap do not use sharp materials.
- ②** Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
- ③** A metal fitting called a shatter hook terminal is fitted inside the rubber cap. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.



MC-Service

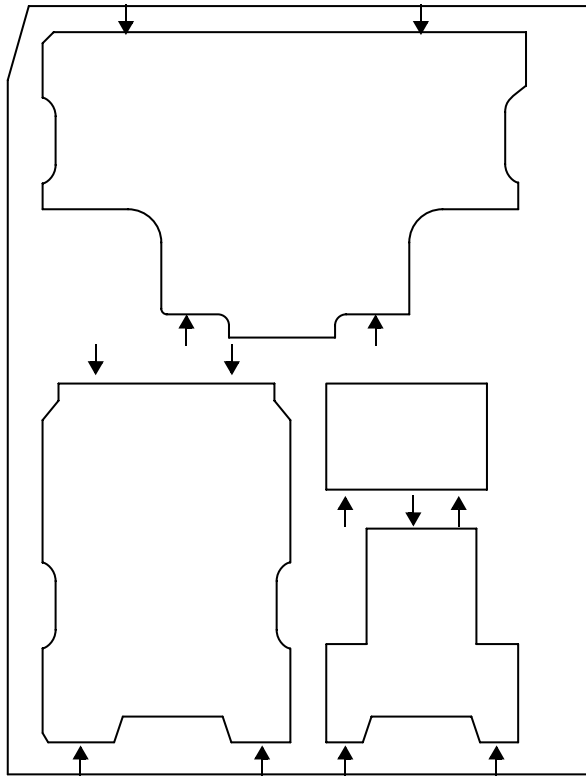
REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

(1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the D Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.

This is performed by cutting the gates with a sharp wire cutter at the locations indicated by arrows.

Note : There are 4 plates fitted to the main bracket and secured by 4 gates.
Only remove the necessary plate to gain access to the printed wiring board.

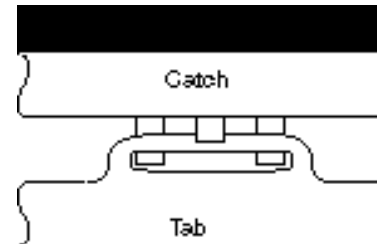


For safety reasons, on no account should the plates be removed and not refitted after servicing.

(2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from the cut position to allow the tabs to be fitted in the catch positions.



SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings:

Contrast normal

Brightness normal

Carry out the following adjustments in this order:

- 3-1. Beam Landing
- 3-2. Convergence
- 3-3. Focus
- 3-4. White balance

Note: Test equipment required

1. Color bar/pattern generator.
2. Degausser.
3. Digital multimeter.
4. Oscilloscope.

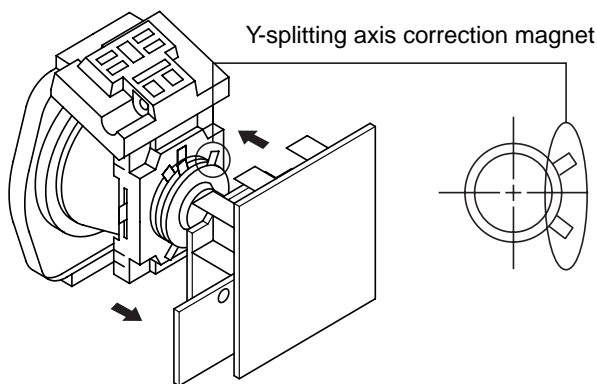
3-1. BEAM LANDING

Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the set's power and degauss with the degausser.

(1) Adjustment of Correction Magnet for Y-Splitting Axis

1. Input a crosshatch signal from the pattern generator.
2. Set the Picture control to minimum and confirm that the Brightness control is set to normal.
3. Position the neck assembly as indicated in Fig.3-2.
4. Move the deflection yolk as far forward as is possible.
5. Adjust the upper and lower pin symmetrically by opening or closing the Y-splitting axis correction magnets located on the neck assembly.
6. Return the deflection yolk to its original position.



Caution :

High voltages are present on the Deflection yolk terminals - take care when handling the Deflection yolk whilst carrying out adjustments.

(2) Landing

Note : Before carrying out the following adjustments adjust the magnets as indicated below [See Fig.3-3].

1. Input an all-white signal from the pattern generator. Maximize the picture setting and adjust the Brightness setting.
2. Rough-adjust the focus and horizontal convergence.
3. Loosen the deflection yolk screws and align the purity adjustment knob to its central position. [See Fig.3-1].
4. Switch from the all-white pattern to an all-green pattern.
5. Move the deflection yolk backwards and adjust with the purity magnet so that the green is at the centre and it aligns symmetrically. [See Fig.3-4].
6. Move the deflection yolk forward and adjust so that the entire screen becomes green.
7. Switch the raster signal to red, then to blue and verify the landing condition.
8. When the position of the deflection yolk has been determined, fasten the deflection yolk with the screw.
9. If the beam does not land correctly in all the corners of the

Fig.3-3 screen, use magnets to correct it. [See Fig.3-5].

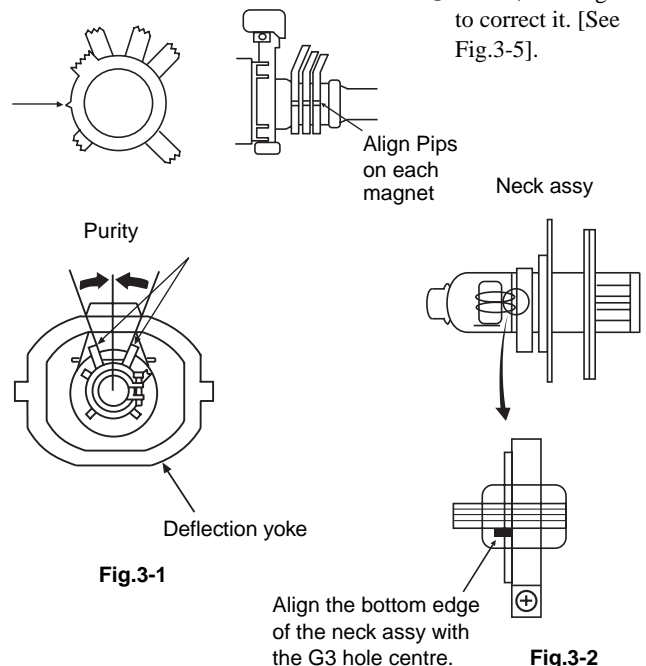


Fig.3-1

Fig.3-2

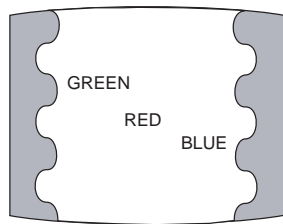


Fig.3-4

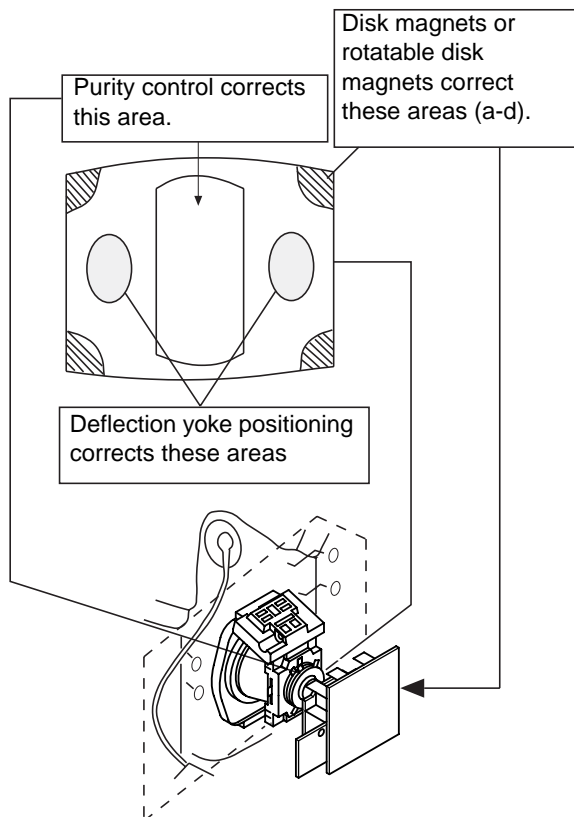
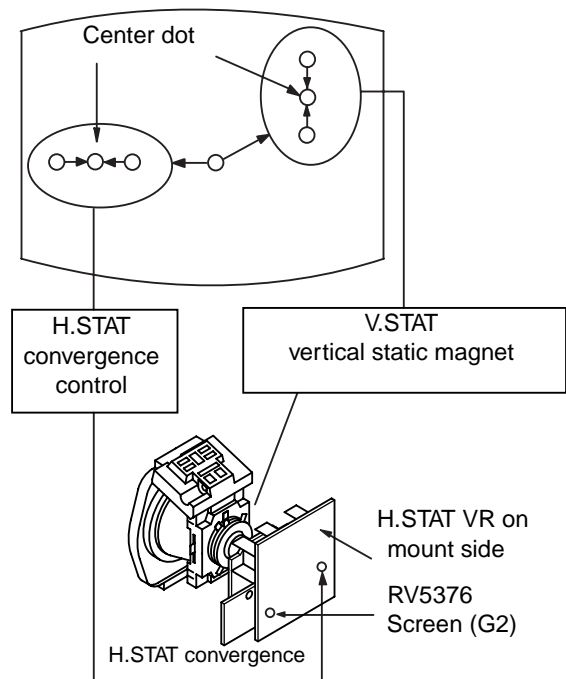


Fig. 3-5

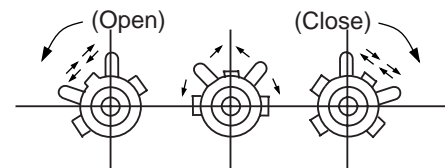
3-2. CONVERGENCE

(1) Screen centre convergence [Static convergence]

1. Input a dot signal from the pattern generator.
Normalize the picture setting.
2. [Moving horizontally], adjust the H.STAT control so that the horizontal red, green and blue dots coincide at the centre of the screen.
3. [Moving vertically], adjust the V.STAT magnet so that the vertical red, green and blue dots coincide at the centre of the screen.

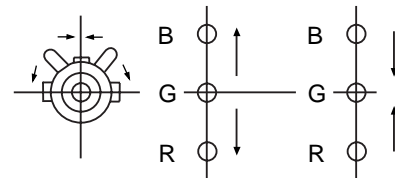


- If the horizontal dots are unable to coincide with the variable range of the H.STAT convergence, adjust together with the V.STAT convergence while tracking.
[Adjust the convergence by tilting the V.STAT convergence or by opening and closing the V.STAT convergence.]

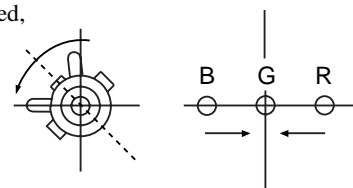


4. Movement of the red, green and blue dots by tilting the V.STAT magnet and by opening or closing the V.STAT magnet.

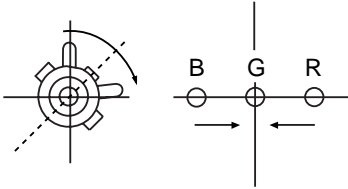
- a). By opening or closing the V.STAT magnet, the red, green and blue dots move as indicated below.



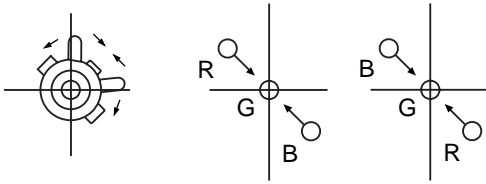
- b). By rotating the V.STAT magnet counter clockwise, the red, green and blue dots move as indicated below.



- c). By rotating the V.STAT magnet clockwise, the red, green and blue dots move in the direction indicated below.



- d). By opening or closing the V.STAT magnet, the red, green and blue dots move in the direction indicated below.

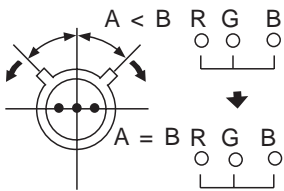


Note : If the blue dot does not coincide with the red and green points correct the points by using the BMC [Hexapole] magnet.

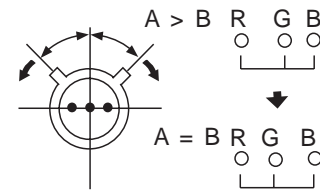
5. Correction for HMC [horizontal mis-convergence] and VMC [vertical mis-convergence] by using the BMC [Hexapole] magnet.

- a). HMC correction by BMC [Hexapole] magnet and movement of the electron beam.

HMC correction(A)

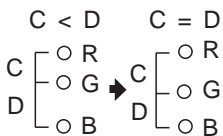
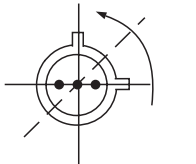


HMC correction(B)

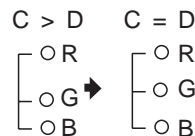
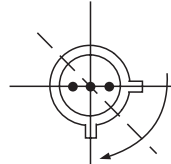


- b). VMC correction by BMC [Hexapole] magnet and movement of the electron beam.

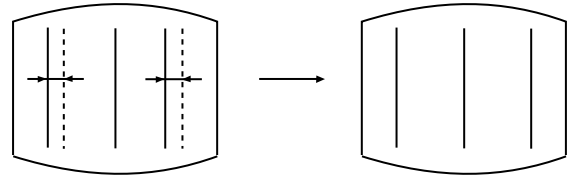
VMC correction(A)



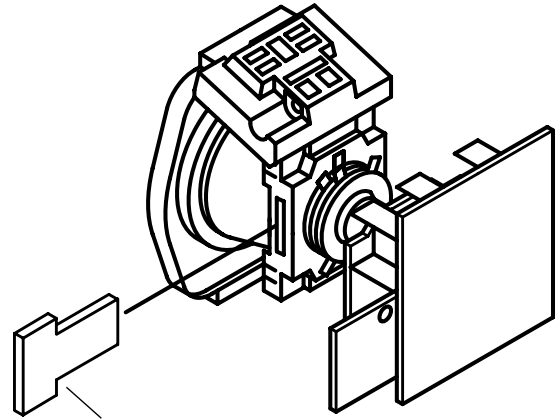
VMC correction(B)



HAMP

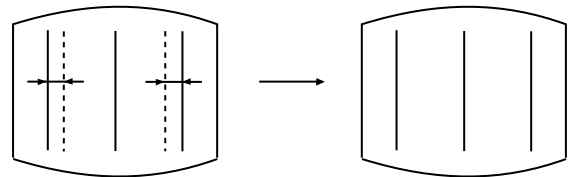


7. HTIL correction can be performed by adding a THL correction ASSY to the DY.



TLH correction Assy
4-057-714-01

HTIL



Layout of each control

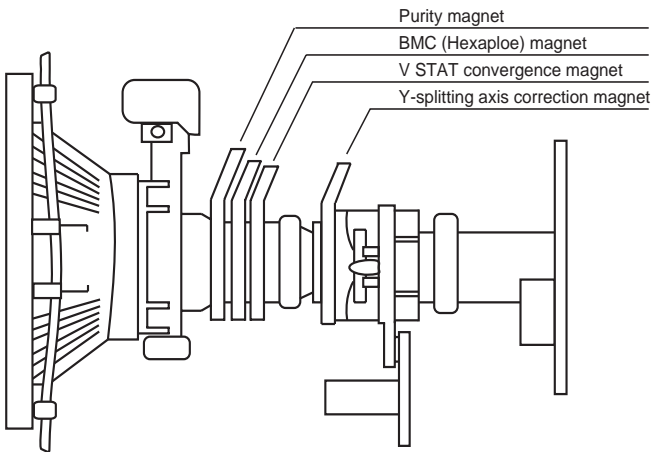
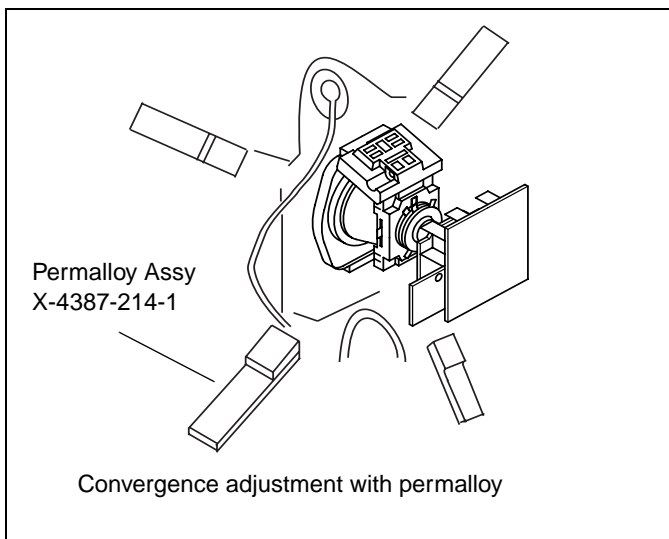
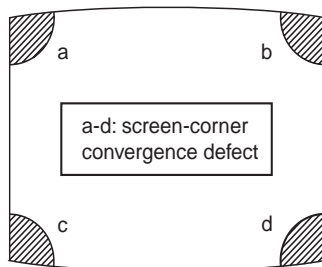


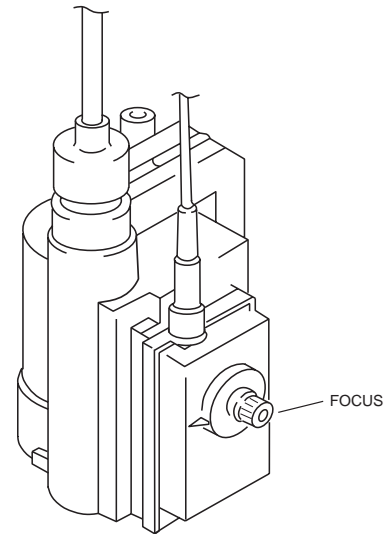
Fig 3-5

Note : If you are unable to adjust the corner convergence properly, this can be corrected with the use of permalloys.



3-3. FOCUS

1. Receive a television broadcast signal.
2. Normalize the picture setting.
3. Adjust the focus control located on the flyback transformer to obtain the best focus at the centre of the screen.
Bring only the centre area of the screen into focus, the magenta-ring appears on the screen. In this case, adjust the focus to optimize the screen uniformly.



3-4. SCREEN (G2), WHITE BALANCE

[Adjustment in the service mode using the remote commander]

G2 adjustment (RV5376)

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 175V DC from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control RV5376 [SCREEN] located on the C Board to the point just before the flyback return lines disappear.

White balance adjustment for TV mode

1. Input an all-white signal.
2. Enter into the Service Mode by pressing 'TEST', 'TEST' and 'MENU' 'MENU' on the Service Commander.
3. Select 'Backend' from the on screen menu display and press 'OK'.
4. The 'Backend' menu will appear on the screen.
5. Set the contrast to MAX.
6. Set the 'R DRIVE' to 41.
7. Adjust the 'G DRIVE' and 'B DRIVE' so that the white balance becomes optimum.
8. Press the 'OK' button to write the data for each item.
9. Set the contrast to MIN.
10. Set the 'R CUT-OFF' to 31.
11. Adjust the 'G CUT-OFF', and 'B CUT-OFF' with the left and right buttons on the remote commander so that the white balance becomes optimum.
12. Press the 'OK' button to write the data for each item.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL-TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1

SECTION 4 CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

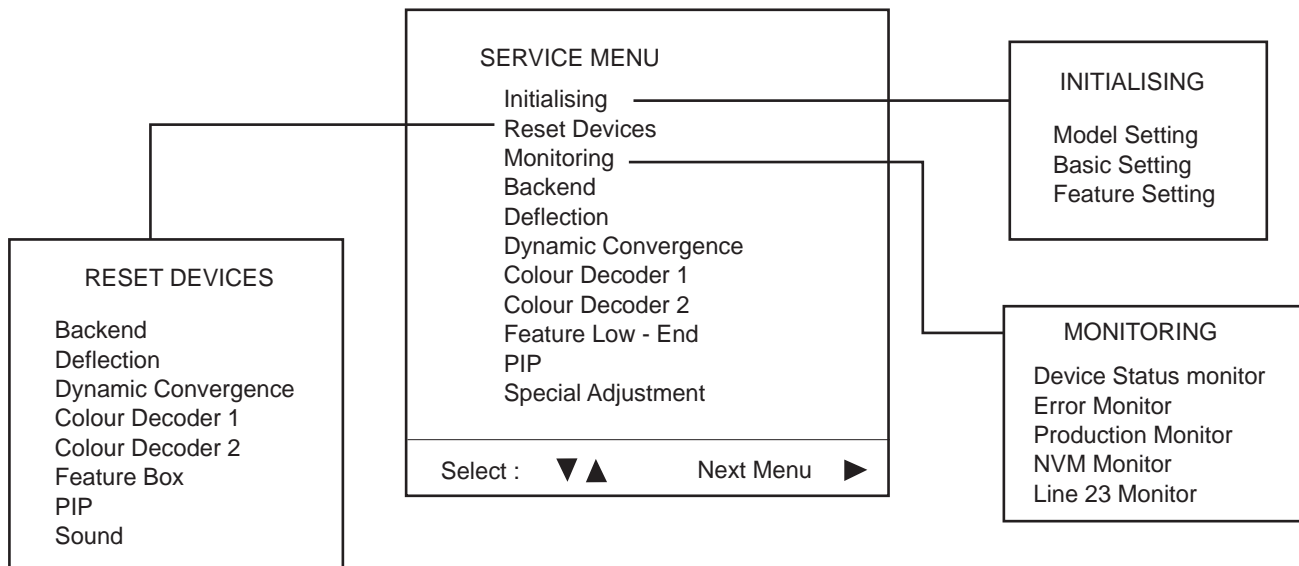
Service adjustments to this model can be performed using the supplied Remote Commander RM-891.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing PROG + (plus) and PROG - (minus) buttons on the top panel.



2. "TT" will appear in the upper right corner of the screen.
3. Press the 'MENU' button twice on the remote commander to obtain the service menu on the screen.



4. Push the joystick up or down on the remote commander to select the adjustment item.
5. Push the right button to proceed to the next menu.
6. If the required adjustment item is 'Deflection', push the down button to move to 'Deflection'.
7. Push the joystick to the right to enter into 'Deflection'.
8. Change the data in order to comply with each standard.

NOTE:

- Before performing any adjustments assure that the correct model has been selected in the Model Setting menu.
- After carrying out the service adjustments, to prevent the customer accessing the Service Menu switch the TV set OFF and then ON.

Model Setting	
1	KV-29FX60A/D/E
2	KV-29FX60B
3	KV-29FX60U
4	KV-29FC60A/D/E
5	KV-29FC60B
6	KV-29FC60K
7	KV-29FC60R
8	KV-29FS60A/D/E
9	KV-29FS60B
10	KV-29FS60K
11	KV-29FS60R
12	KV-28/32FX60A/D/E
13	KV-28/32FX60B
14	KV-28/32FX60K
15	KV-28/32FX60R
16	KV-28/32FX60U
17	KV-29FS60A/D/E
18	KV-29FS60B

Fig.4-1

Basic setting				
No	Descr.	Min	Max	Data
1	Sys.B/G	OFF	ON	ON
2	Sys.D/K	OFF	ON	ON
3	Sys.L	OFF	ON	ON
4	Sys I (UK)	OFF	ON	OFF
5	Sys I (IRL)	OFF	ON	OFF
6	Russian sound	OFF	ON	OFF
7	TXT Nod.option	1	4	3
8	simple PAT	OFF	ON	OFF
9	16:9 CRT	OFF	ON	OFF
10	Sub-woofer	OFF	ON	ON
11	Auto stand-by	OFF	ON	ON
12	comb-filter	OFF	ON	OFF
13	Auto YC det	OFF	ON	ON
14	Auto comb det	OFF	ON	OFF
15	AV2 Available	OFF	ON	ON
16	AV3 Available	OFF	ON	ON
17	AV4 Available	OFF	ON	OFF
18	AV3 Front & rear	OFF	ON	ON
19	SECAM Tape	OFF	ON	OFF

Fig.4-2

NOTE:

The above table is dependant on model, destination & size.

Backend					
No	Descr.	Def	Min	Max	Data
1	R-on	ON	OFF	ON	ON
2	G-on	ON	OFF	ON	ON
3	B-on	ON	OFF	ON	ON
4	D-col	OFF	OFF	ON	ON
5	Color-axis	2	0	3	2
6	Contrast	63	0	63	63
7	Limit-Luv	3	0	3	3
8	Hue	31	0	63	31
9	Colour	31	0	63	28
10	CTI -Level	2	0	3	2
11	Brightness	31	0	63	31
12	Gamma	2	0	3	2
13	Sharpness	31	0	63	44
14	LTI-Level	0	0	3	0
15	R-Drive	41	0	63	40
16	BLK-Bottom	0	0	3	0
17	G-Drive	41	0	63	38
18	ABL-TH	0	0	3	0
19	B-Drive	41	0	63	21
20	ABL-Mode	2	0	3	2
21	Sub Bright	31	0	63	32
22	VM-Level	2	0	3	2
23	R-Cutoff	31	0	63	41
24	Preover	2	0	3	2
25	G-Cutoff	31	0	63	45
26	DPIC-Level	2	0	3	2
27	B-Cutoff	31	0	63	48
28	DC-Tran	1	0	3	1
29	Sub-Cont	7	0	15	7
30	LRGB2-Lvl	12	0	15	12
31	P-Abl	15	0	15	15
32	DL-Pass	OFF	OFF	ON	OFF
33	Sharp.Fo	ON	OFF	ON	ON
34	Aging-W	OFF	OFF	ON	OFF
35	Aging-B	OFF	OFF	ON	OFF
36	CB-offset1	7	0	15	7
37	CR-offset1	7	0	15	7
38	CB-offset2	7	0	15	7
39	CR-offset2	7	0	15	7
40	Sub Colour	0	-8	8	-1

Fig.4-3

Feature setting				
No	Descr.	Min	Max	Data
1	PIP	OFF	ON	ON

Fig.4-4

Colour Decoder 1					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-5

Colour Decoder 2					
No	Descr.	Def	Min	Max	Data
1	DelayLinMd	OFF	OFF	ON	OFF
2	Gain set	1	0	3	1
3	Y-Delay	7	0	15	7
4	Phase Time	0	0	3	0
5	Vid Ident Md	OFF	OFF	ON	OFF
6	Sync Mode	OFF	OFF	ON	OFF
7	Vid Ident Sw	ON	OFF	ON	ON
8	H-Output	OFF	OFF	ON	OFF
9	Enagating	OFF	OFF	ON	OFF
10	IF Circuit	ON	OFF	ON	ON
11	GP Delay	OFF	OFF	ON	OFF

Fig.4-6

Deflection					
No	Descr.	Def	Min	Max	Data
1	V-Size	31	0	63	34
2	V-Position	31	0	63	21
3	V-Comp	1	0	3	1
4	V-Linear	7	0	15	7
5	S-Corr	7	0	15	8
6	H-Size	31	0	63	29
7	EW-DC	OFF	OFF	ON	OFF
8	Pin-Amp	31	0	63	36
9	Up-Cpin	31	0	63	35
10	M-Pin	2	0	3	2
11	Lo-Cpin	31	0	63	37
12	Trapezium	7	0	15	7
13	H-Position	31	0	63	25
14	AFC-Bow	7	0	15	7
15	AFC-Angle	7	0	15	9
16	Up-Vlin	0	0	15	0
17	Lo-Vlin	0	0	15	0

Fig.4-7

Dynamic Convergence					
No	Descr.	Def	Min	Max	Data
1	Range	63	0	63	32
2	H Stat	33	0	63	33
3	H amp L	37	0	63	37
4	H amp R	36	0	63	36
5	Up Y	31	0	63	31
6	Low Y	33	0	63	33
7	Y Up L	30	0	63	30
8	Y Up R	30	0	63	30
9	Y Low L	31	0	63	31
10	Y Low R	30	0	63	30
11	Mbow Up L	31	0	63	31
12	Mbow Up R	32	0	63	32
13	Mbow Low L	32	0	63	32
14	Mbow Low R	32	0	63	32
15	V Stat	32	0	63	32
16	Linearity	128	0	255	104
17	H Centre	32	0	63	32
18	H Trap	32	0	63	32
19	Rotation	0	0	255	0
20	Focus Phase	128	0	255	128

Fig.4-8

Feature Low-End					
No	Descr.	Def	Min	Max	Data
1	F.S.FM	OFF	OFF	ON	OFF
2	G-Mode	OFF	OFF	ON	OFF
3	Picture Pos	0	0	3	0
4	Comp Mode	OFF	OFF	ON	OFF
5	CompSW	OFF	OFF	ON	OFF
6	Acqu.freq	OFF	OFF	ON	OFF
7	Still Pic	OFF	OFF	ON	OFF
8	Init	OFF	OFF	ON	OFF
9	Dis Feature	ON	OFF	ON	ON
10	Dis Vlimit	ON	OFF	ON	ON
11	Scr Fade	0	0	3	0
12	Hwe Delay	20	0	255	20
13	Auto Vshift	OFF	OFF	ON	OFF
14	Vve Delay	0	0	127	0
15	SFR sw	OFF	OFF	ON	OFF
16	IPQ	0	0	3	0
17	D.Col Dec	OFF	OFF	ON	OFF
18	Blankfield	0	0	15	0
19	P1.5	OFF	OFF	ON	OFF
20	P1.4	OFF	OFF	ON	OFF
21	P1.3	OFF	OFF	ON	OFF
22	P1.2	OFF	OFF	ON	OFF
23	P1.1	OFF	OFF	ON	OFF
24	Set Vdba	OFF	OFF	ON	OFF
25	Set Sidep	ON	OFF	ON	ON
26	Set Hwe	OFF	OFF	ON	OFF
27	Set Clv	OFF	OFF	ON	OFF
28	Set Hddel	OFF	OFF	ON	OFF
29	Set Hblnd	OFF	OFF	ON	OFF
30	Set Hre	ON	OFF	ON	ON
31	Set Hbda	ON	OFF	ON	ON
32	Set Hdav	ON	OFF	ON	ON
33	Vbdasta	0	0	255	0
34	Vsdasto	0	0	255	0
35	Msbhwesto	OFF	OFF	ON	OFF
36	Msbhwesta	OFF	OFF	ON	OFF
37	Msbvbdasto	OFF	OFF	ON	OFF
38	Msbvbdasta	OFF	OFF	ON	OFF
39	Hdavsta	40	0	255	40
40	Hdavsto	255	0	255	255

Feature Low-End(Cont.)					
No	Descr.	Def	Min	Max	Data
41	Hbdasta	223	0	255	223
42	Hbdasto	222	0	255	222
43	Hresta	38	0	255	38
44	Hresto	202	0	255	202
45	Hblindsta	31	0	255	31
46	Hblindsto	30	0	255	30
47	MsbHblindsta	OFF	OFF	ON	OFF
48	MsbHblindsto	OFF	OFF	ON	OFF
49	Msb Hresto	ON	OFF	ON	ON
50	Msb Hresta	OFF	OFF	ON	OFF
51	Msbhbdasta	ON	OFF	ON	ON
52	Msbhbdasto	ON	OFF	ON	ON
53	Msbhdavsto	ON	OFF	ON	ON
54	Msbhdavsta	OFF	OFF	ON	OFF
55	Hddel	0	0	15	0
56	Clvsta	0	0	255	0
57	Clvsto	9	0	255	9
58	Hwesta	44	0	255	44
59	Hwesto	208	0	255	208
60	Ex-Thres	OFF	OFF	ON	OFF
61	Wes	ON	OFF	ON	OFF
62	Demo mode	ON	OFF	ON	OFF
63	Limerick NR	0	0	4	0
64	Nthr	0	0	255	2
65	Wval	200	0	255	200
66	Agc Ych	203	0	255	203
67	Agc Uvch	209	0	255	209
68	Aal-Bypass	OFF	OFF	ON	OFF
69	Stby Fr	OFF	OFF	ON	OFF
70	Lsb Agc-Uv	OFF	OFF	ON	OFF
71	Lsb Agc-Y	OFF	OFF	ON	OFF
72	Vcl cor	0	0	3	0
73	Ucl cor	0	0	3	0
74	Uv cor mode	0	0	3	0
75	Uvcl tau	3	0	3	3
76	Uvcol Lvl	0	0	3	0
77	Fil Mem	OFF	OFF	ON	OFF
78	Overl Thr	1	0	3	1
79	Y delay f	4	0	7	4
80	Dcti pdxsel	ON	OFF	ON	ON

Fig.4-9

Feature Low-End (Cont.)					
No	Descr.	Def	Min	Max	Data
81	Dcti Thres	0	0	15	0
82	Dcti Gain	0	0	7	0
83	Dcti Super	ON	OFF	ON	ON
84	Dcti Fil	ON	OFF	ON	ON
85	Dcti Prot	ON	OFF	ON	ON
86	Dcti Sep	ON	OFF	ON	ON
87	Dcti Limit	2	0	3	2
88	Peak Beta	0	0	7	0
89	Peak Alpha	2	0	7	2
90	Peak Neg g	0	0	3	0
91	Peak Delta	0	0	3	0
92	Peak Tau	0	0	7	0
93	Peak Corth	0	0	15	0
94	Overlay V	0	0	15	0
95	Overlay U	0	0	15	0
96	Overlay Y	10	0	255	10
97	Sidep sta	240	0	255	240
98	Sidep sto	36	0	255	36
99	Y delay B	7	0	7	7
100	Invert UV	ON	OFF	ON	ON
101	Output Range	ON	OFF	ON	ON
102	Sidep Fdel	0	0	3	0

PIP					
No	Descr.	Def	Min	Max	Data
1	Freeze	OFF	OFF	ON	OFF
2	Frame	ON	OFF	ON	ON
3	Pipon	ON	OFF	ON	OFF
4	Seldel	1	0	15	1
5	Mixdis	ON	OFF	ON	ON
6	H-Poshi	0	0	3	0
7	H-Pos	137	0	255	137
8	V-Pos	59	0	255	59
9	Y-Delay	0	0	7	0
10	V-Dec	OFF	OFF	ON	OFF
11	H-Dec	OFF	OFF	ON	OFF
12	Insvh	ON	OFF	ON	ON
13	Chrins	ON	OFF	ON	ON
14	Pmod	0	0	3	0
15	Imod	0	0	3	0
16	Clisw	ON	OFF	ON	ON
17	H side	4	0	15	4
18	Vsiisq	OFF	OFF	ON	OFF
19	Vsidel	0	0	31	0
20	Parasynd	ON	OFF	ON	ON
21	Vspisq	OFF	OFF	ON	OFF
22	Vspdel	10	0	31	10
23	Con	1	0	15	1
24	Fry	8	0	15	8
25	Frv	3	0	15	3
26	Fru	4	0	15	4
27	Sel Down	OFF	OFF	ON	OFF
28	Frwidv	1	0	3	1
29	Frwidh	2	0	7	2
30	Mat	4	0	7	4
31	Daconst	OFF	OFF	ON	OFF
32	Plltc	1	0	3	1
33	Dacontle	OFF	OFF	ON	OFF
34	Left	83	0	255	83
35	RightHi	1	0	3	1
36	Right	192	0	255	192
37	Up	46	0	255	46
38	Down	189	0	255	189

Fig.4-10

Sound					
No	Descr.	Def	Min	Max	Data
1	Ref.Level	40	0	20	40
2	Auto-gain	ON	OFF	ON	ON
3	Ana-in	0	0	1	0
4	Corr-mute	ON	OFF	ON	ON
5	Clock out	ON	OFF	ON	ON
6	AM-gain	ON	OFF	ON	ON
7	Clip mode	0	0	2	0
8	SCART1 Vol	79	0	127	79
9	SCART2 Vol	79	0	127	79
10	SCART Pr	27	0	127	27
11	Izs1-pr	16	0	127	16
12	Izs2-pr	16	0	127	16
13	FM pr	27	0	127	27
14	BG Nic-pr	53	0	127	53
15	L Nic-pr	59	0	127	59
16	DK Nic-pr	53	0	127	53
17	I Nic-pr	97	0	127	97
18	Irl Nic-pr	97	0	127	97
19	AVC-Decay	2	0	8	2
20	Subw-vol	0	0	-127	0
21	Subw-freq	20	5	40	20
22	Subw-Hpuss	OFF	OFF	ON	OFF
23	Spat-stre	127	0	-1	127
24	Spat-Coeff	0	0	8	0
25	Bass offs	0	-3	3	0
26	Treble offs	0	-3	3	0
27	Loudn offs	0	0	9	0
28	Hp-voloffs	-2	-5	5	-2
29	M-S Limit	30	-128	127	30
30	M-B Limit	-30	-128	127	-30
31	S-M Limit	12	-128	127	12
32	S-B Limit	-20	-128	127	-20
33	B-M Limit	-12	-128	127	-12
34	B-S Limit	20	-128	127	20
35	Err.Max	40	0	255	40
36	Err.Min	14	0	255	18

Fig.4-11

Special Adjustment				
No	Descr.	Min	Max	Data
1	RGB Level	0	7	0
2	RGB Gain	0	31	9
3	RGB PatLevel	0	7	7
4	RGB Patgain	0	31	31
5	RGB H-position	-10	10	-1
6	Extra Fw	0	255	255
7	EPG Chks Check	OFF	ON	ON
8	Slicer High	OFF	ON	ON
9	FCW Wide	OFF	ON	ON
10	High PII	OFF	ON	OFF
11	Panic offset	0	2	0
12	Wide Mute	OFF	ON	ON

Fig.4-12

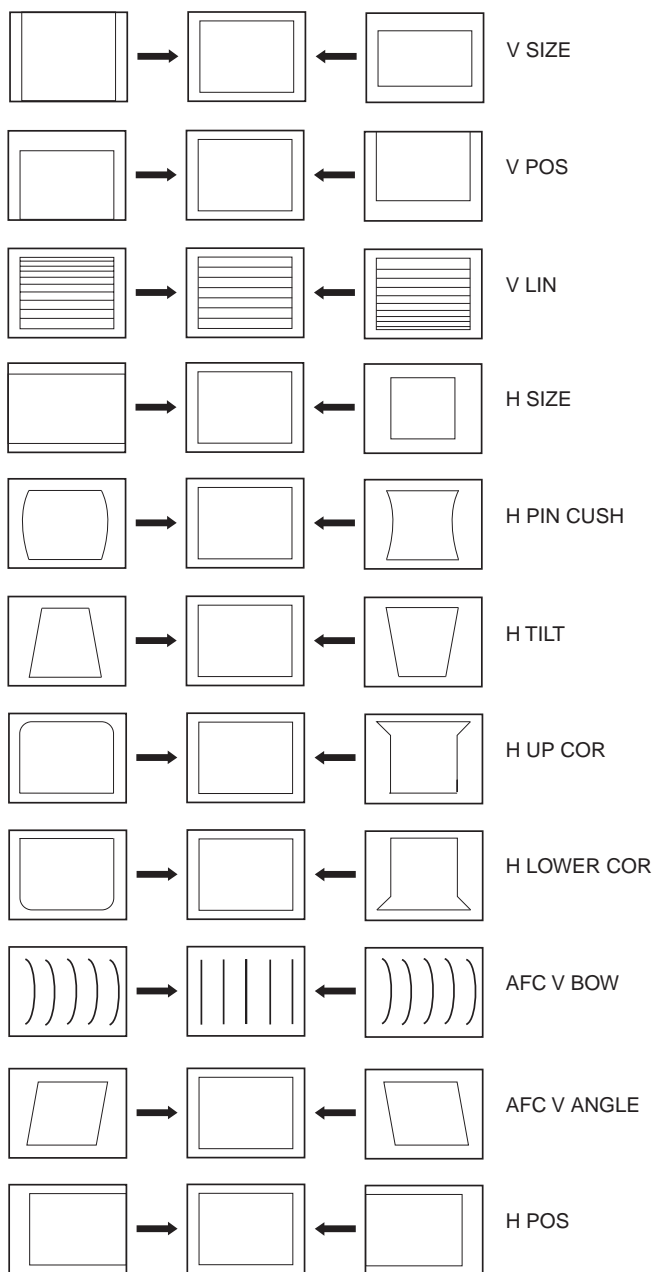
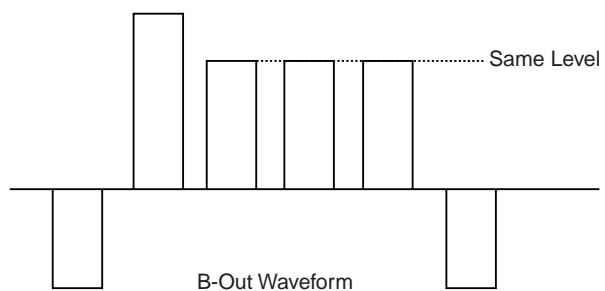
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into the service mode and select 'Deflection '. The 'Deflect ' adjustment menu will be displayed.
2. Select and adjust each item to obtain the optimum image.

4-2.VOLUME ELECTRICAL ADJUSTMENTS

Sub Colour Adjustment

1. Input a PAL colour bar signal.
2. Connect an oscilloscope to CN5400 pin 5 on the C board.
3. Enter into the 'SERVICE MODE'.
4. Choose 'Backend'.
5. Adjust Sub Colour data so that the right sides of the waveforms are of equal height.



4-3. TEST MODE 2:

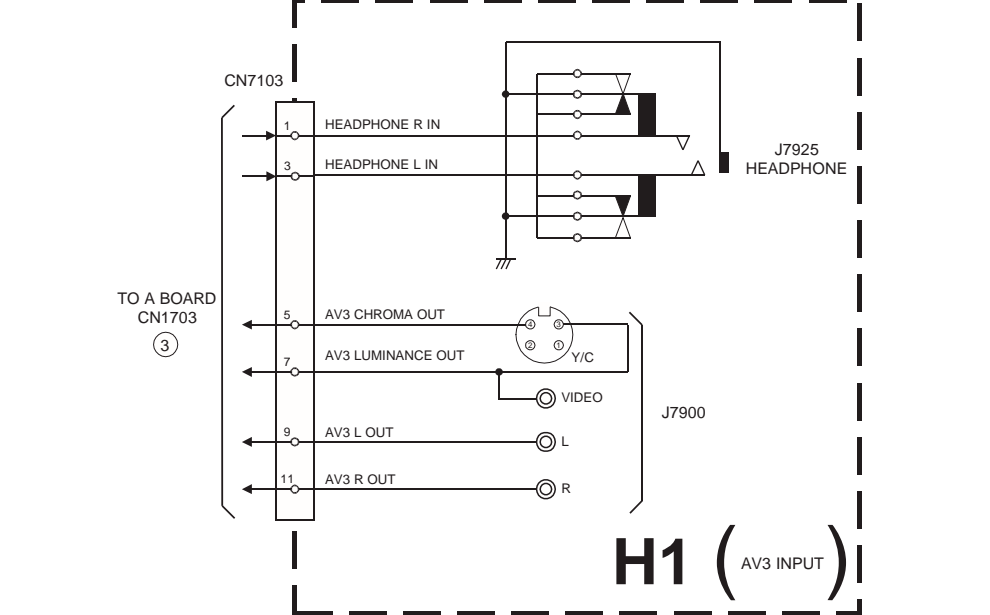
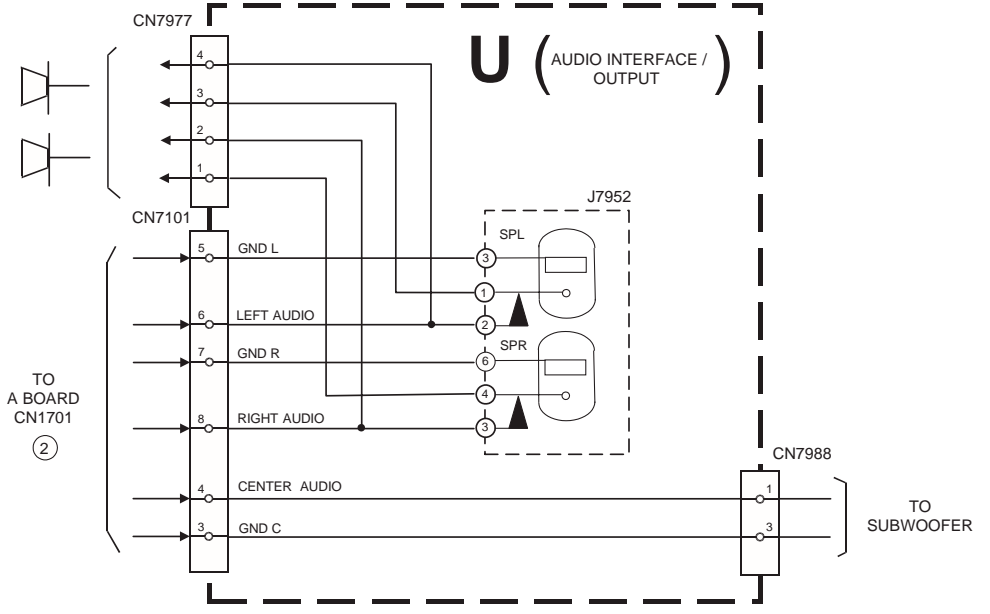
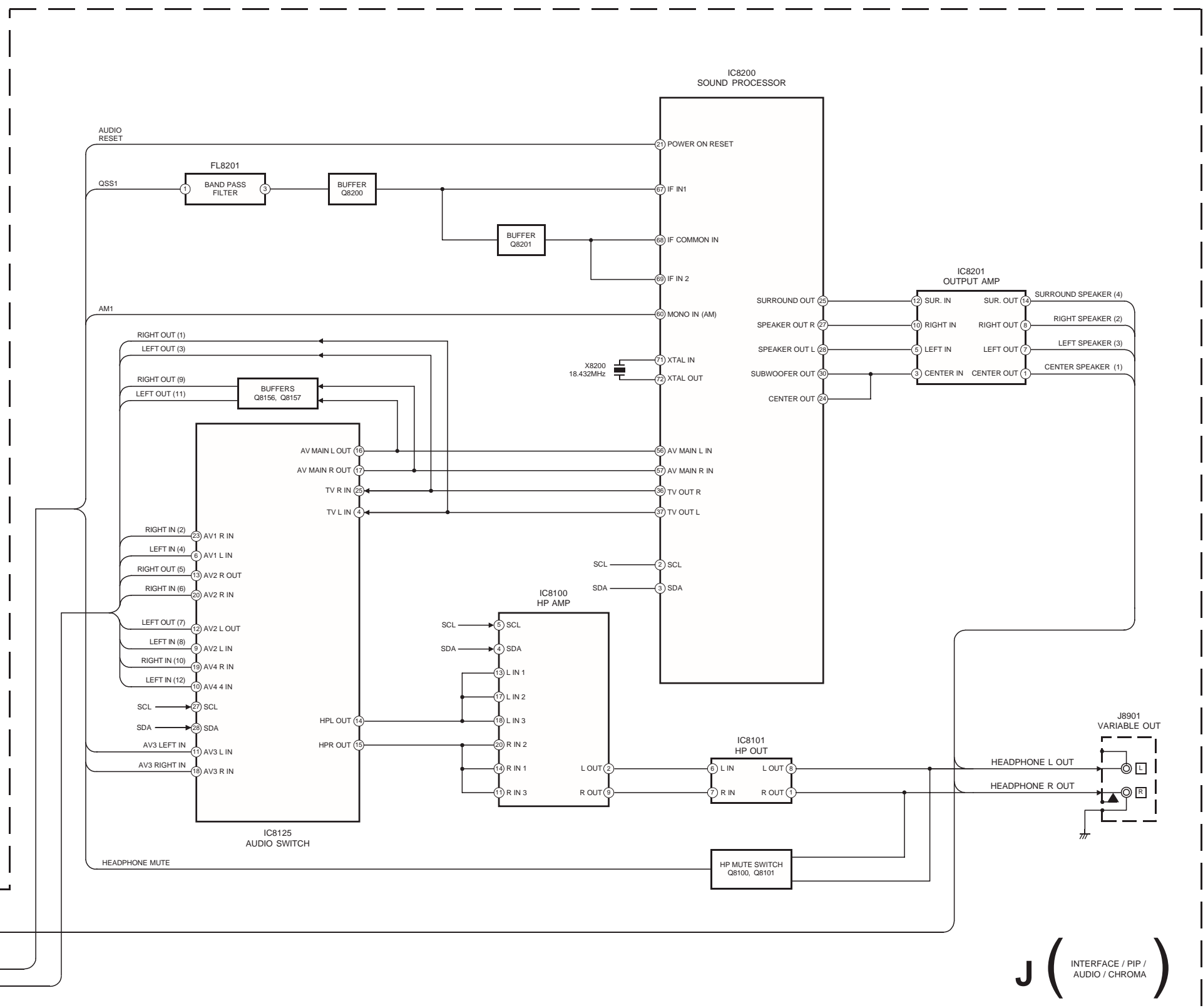
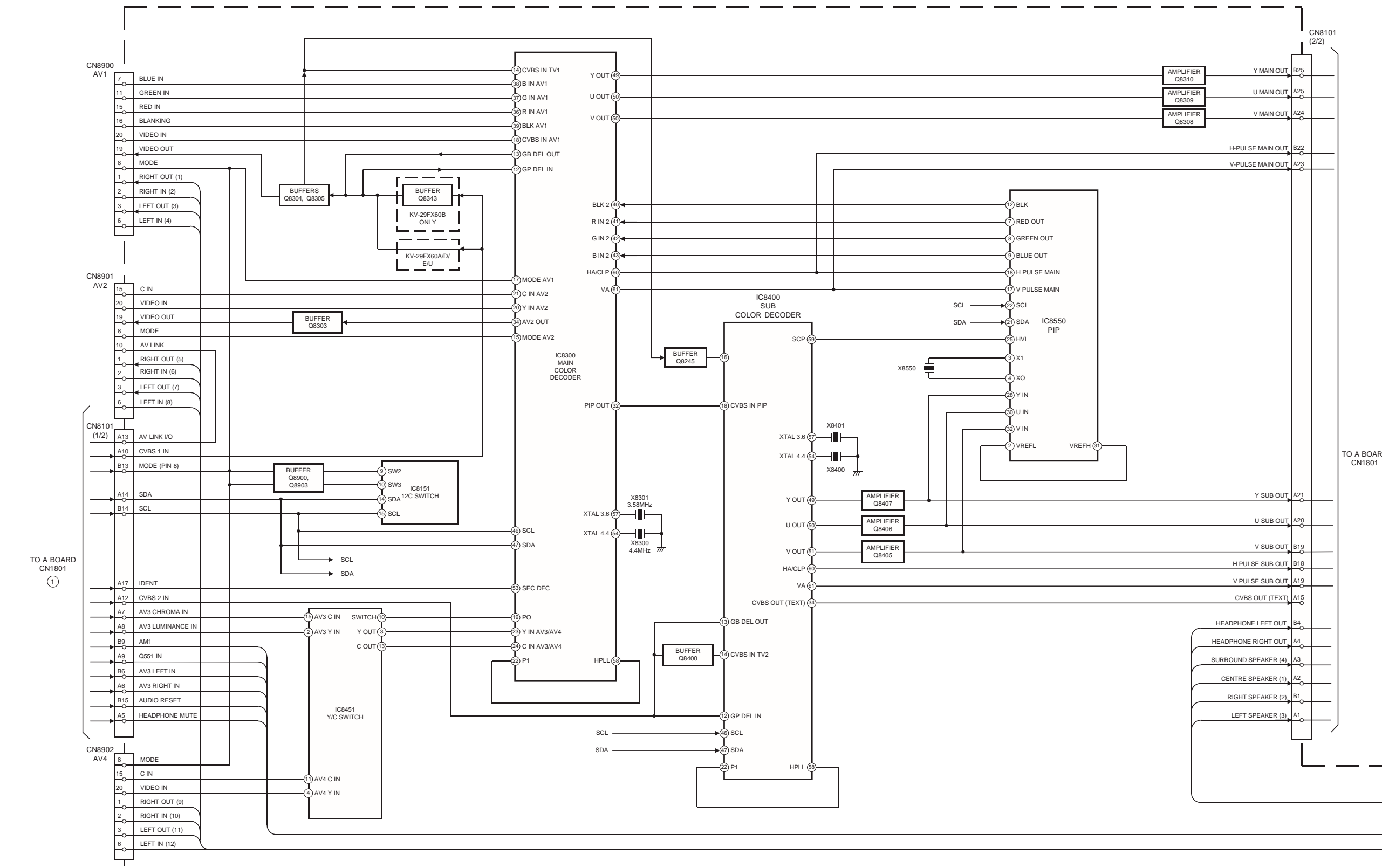
Is available by pressing 'TEST' button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0, 10, 20 ... twice or switch the TV set into Stand-by Mode. Pressing the two Local Control buttons (+ and -) during Power ON will also switch into 'TT' mode.

In 'TT' mode, it is possible to remove the Menu from the screen by pressing the Speaker Off button once. Pressing the Speaker OFF button a second time will cause the menu to reappear. The Function is kept even when the menu is not displayed !!.

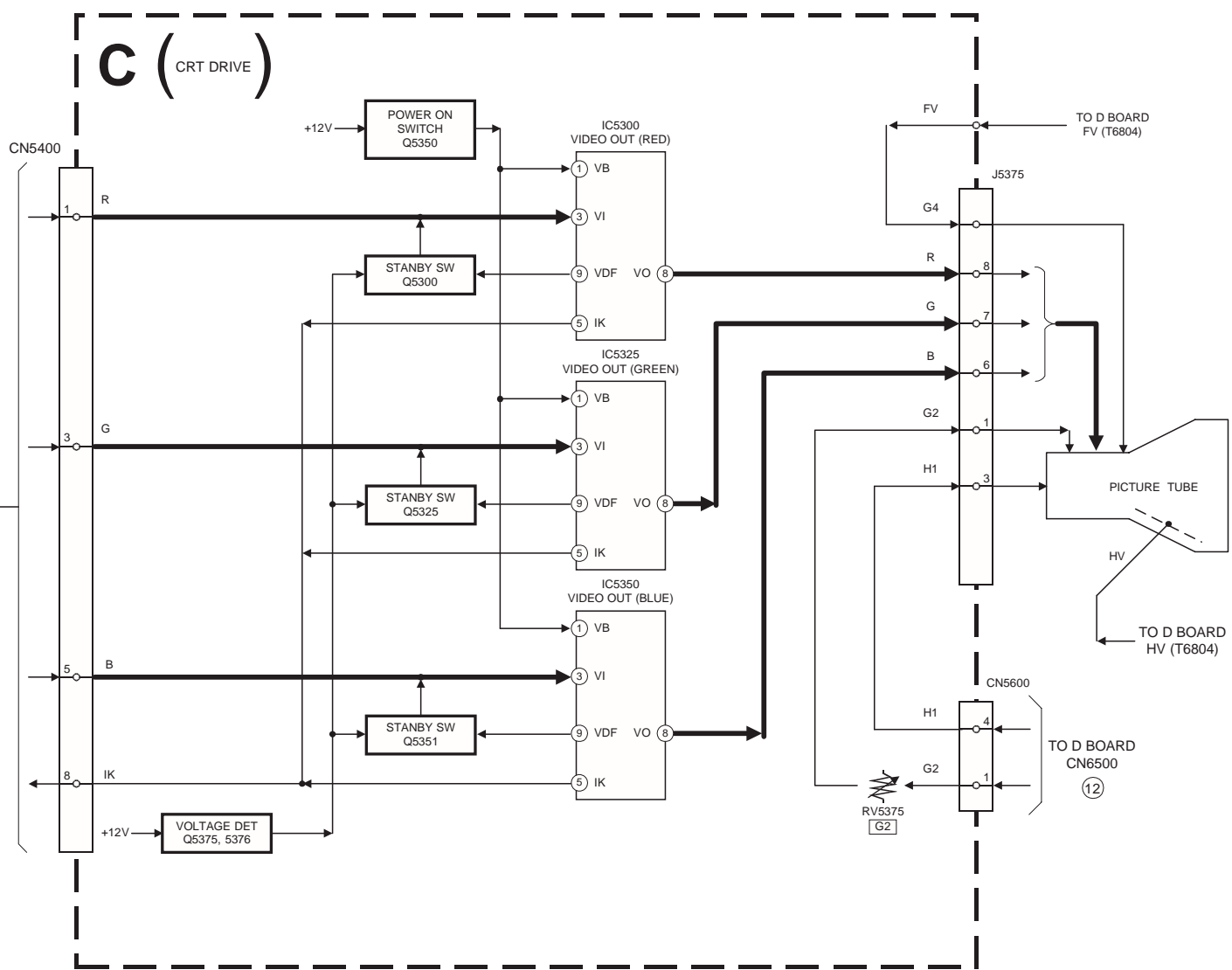
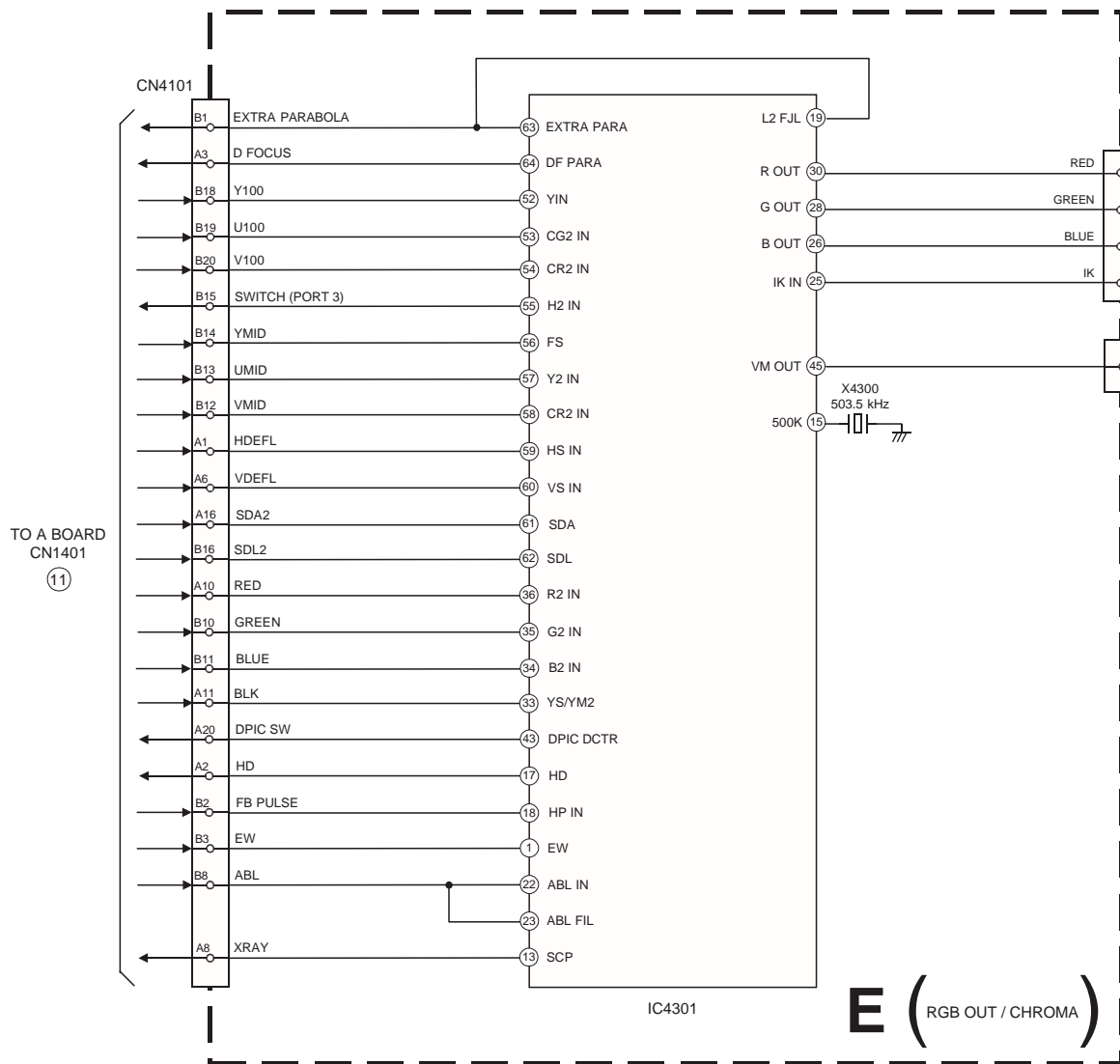
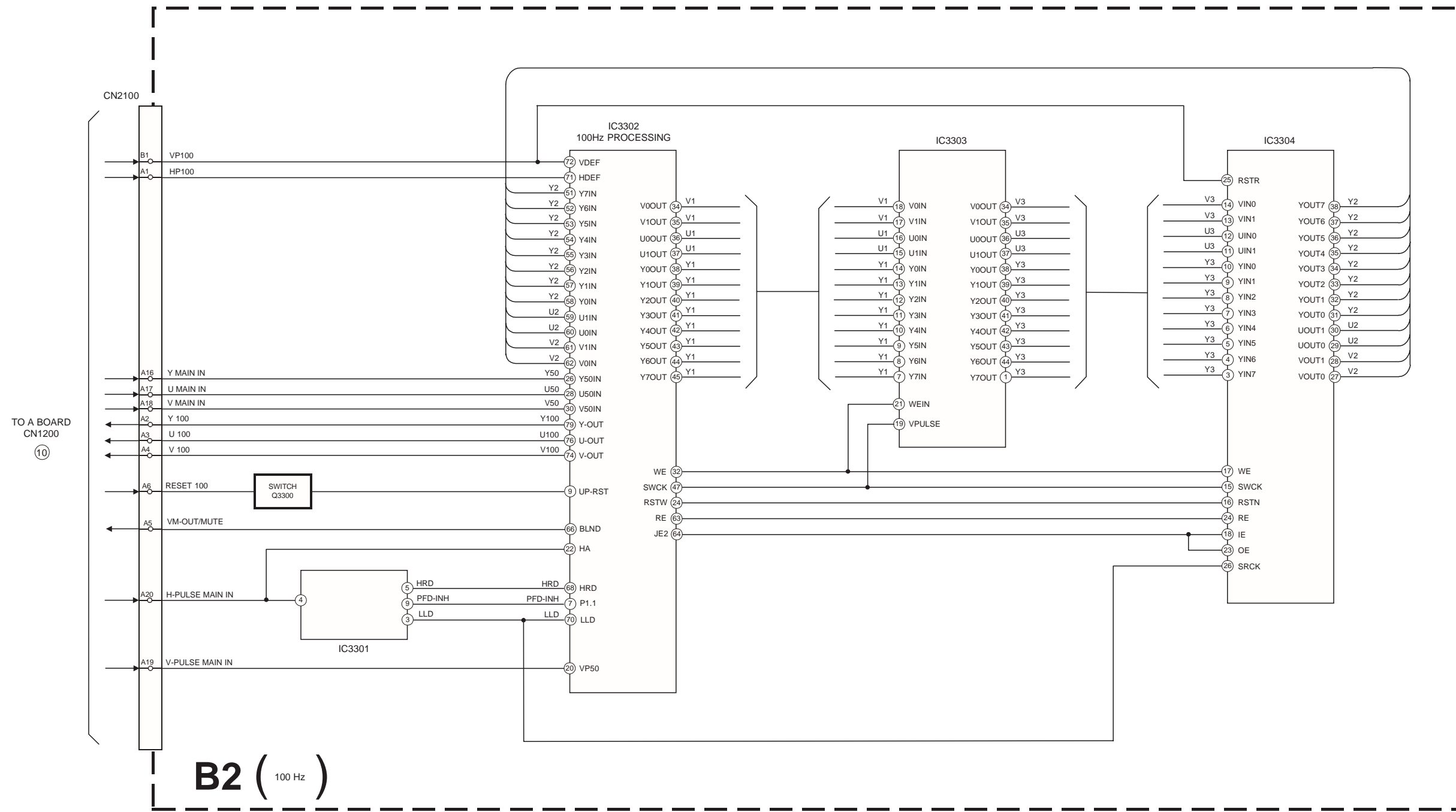
00	Switch back to normal mode - 'TT' mode off
01	Set picture maximum
02	Set picture minimum
03	Set speaker/headphone Volume to 30%
04	Set speaker/headphone Volume to 50%
05	Set speaker/headphone Volume to 65%
06	Set speaker/headphone Volume to 80%
07	Ageing Mode
08	Shipping Condition
09	Language Reset
10	No function
11	Sub picture adjustment
12	Sub colour adjustment
13	Display software version and TV set configuration
14	Production Info Display
15	Picture Rotation
16	Picture level 50%
17	Audio mute on
18	No function
19	Sub brightness adjustment
20	See 'TT10'
21	Destination A includes text settings, display TV status
22	Destination L includes text settings, display TV status
23	Destination E includes text settings, display TV status
24	Destination U includes text settings, display TV status
25	Destination D includes text settings, display TV status
26	Destination B includes text settings, display TV status
27	Destination K includes text settings, display TV status
28	Destination R includes text settings, display TV status
30	See 'TT10'
31	Geometry Adjustment 1
32	Geometry Adjustment 2
33	Error monitor
34	No function
35	CRT 4:3 < > 16:9 ; Display TV status
36	Line 23 detection switch
37	Velocity Modulation (VM) test
38	No function
39	No function
40	See 'TT10'

41	Screen mode check
42	Re initialise geometry
43	No function
44	No function
45	No function
46	Reserved for dealer commander
47	Re initialise NVM
48	Set NVM as non virgin
49	Set NVM as virgin
50	See 'TT10'
51	Set Dolby volume to 90%
52	Dolby on left speaker only
53	Dolby on right speaker only
54	Dolby on left centre only
55	Dolby on surround speaker only
56 - 59	No function
60	See 'TT10'
61	Service mode
62	Production mode
65	Reset error codes
68	Ignore errors on
69	Ignore errors off
70	See 'TT10'
71 - 72	No function
73	Clear programs
74 - 79	No function
80	See 'TT10'
81	PAP H adjustment left image
82	PAP H adjustment right image
83 - 86	No function
87	Personal ID reset
88	Parental Lock off
89	No function
90	See 'TT10'

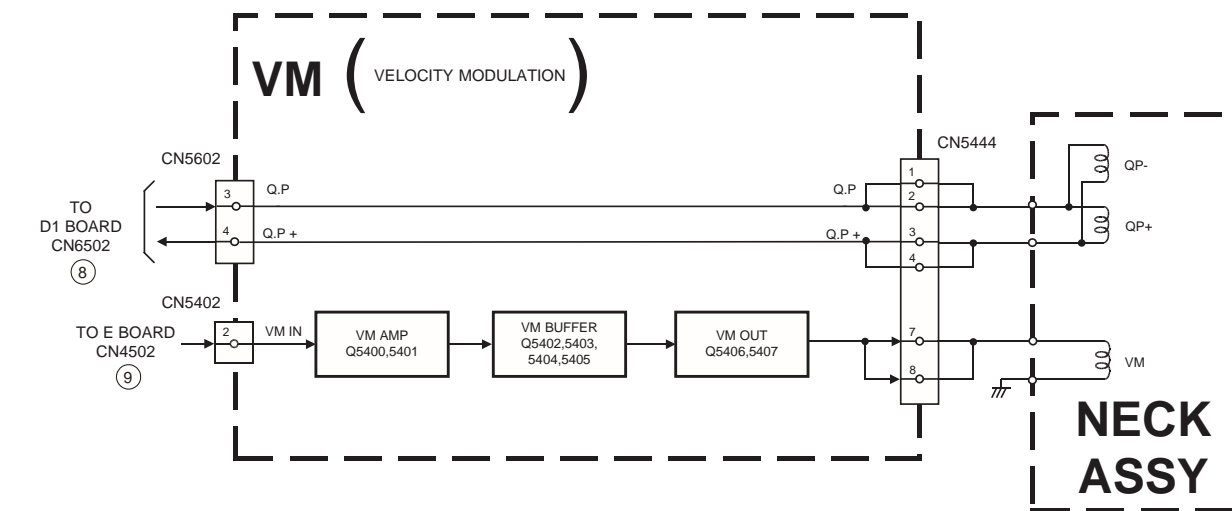
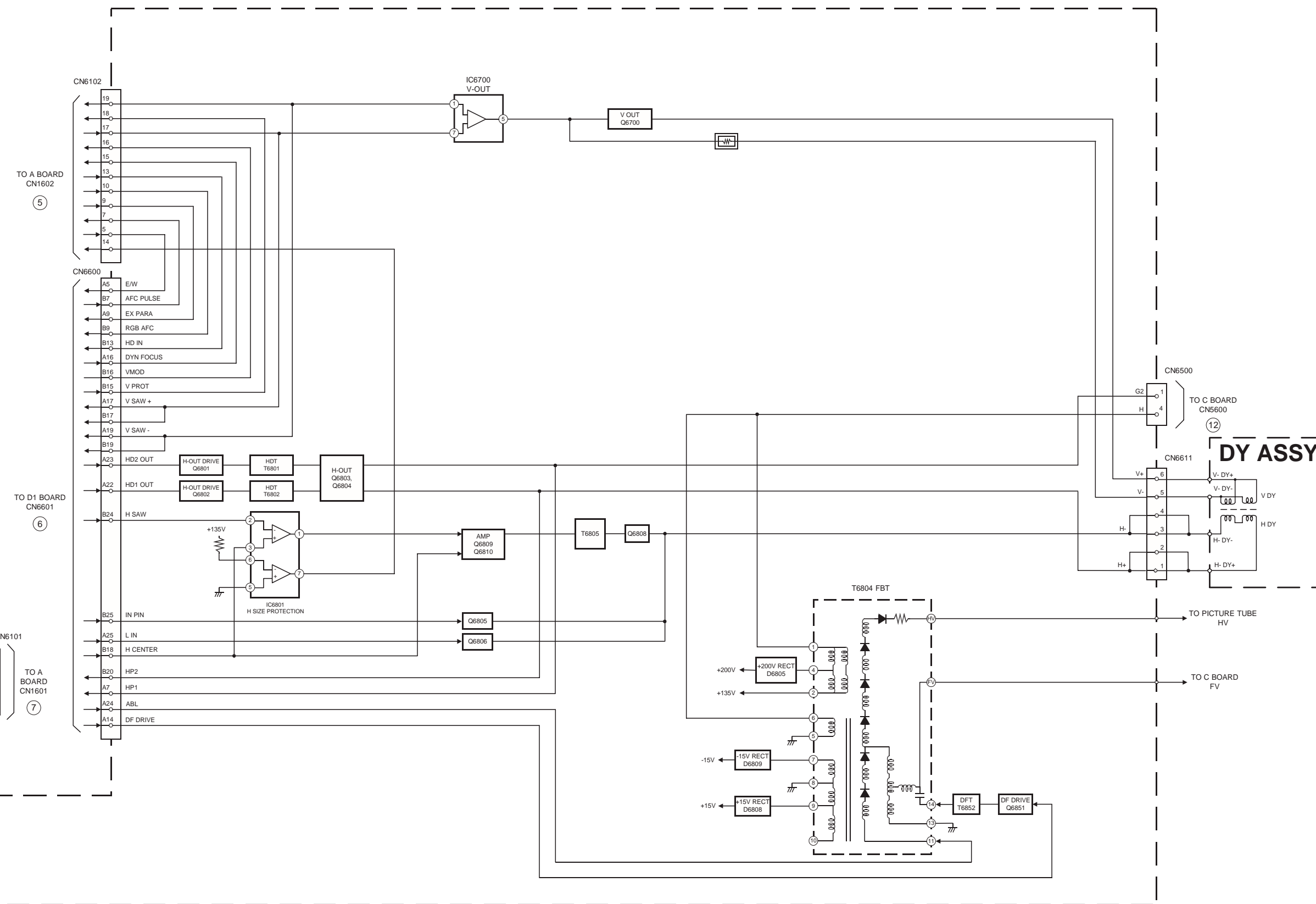
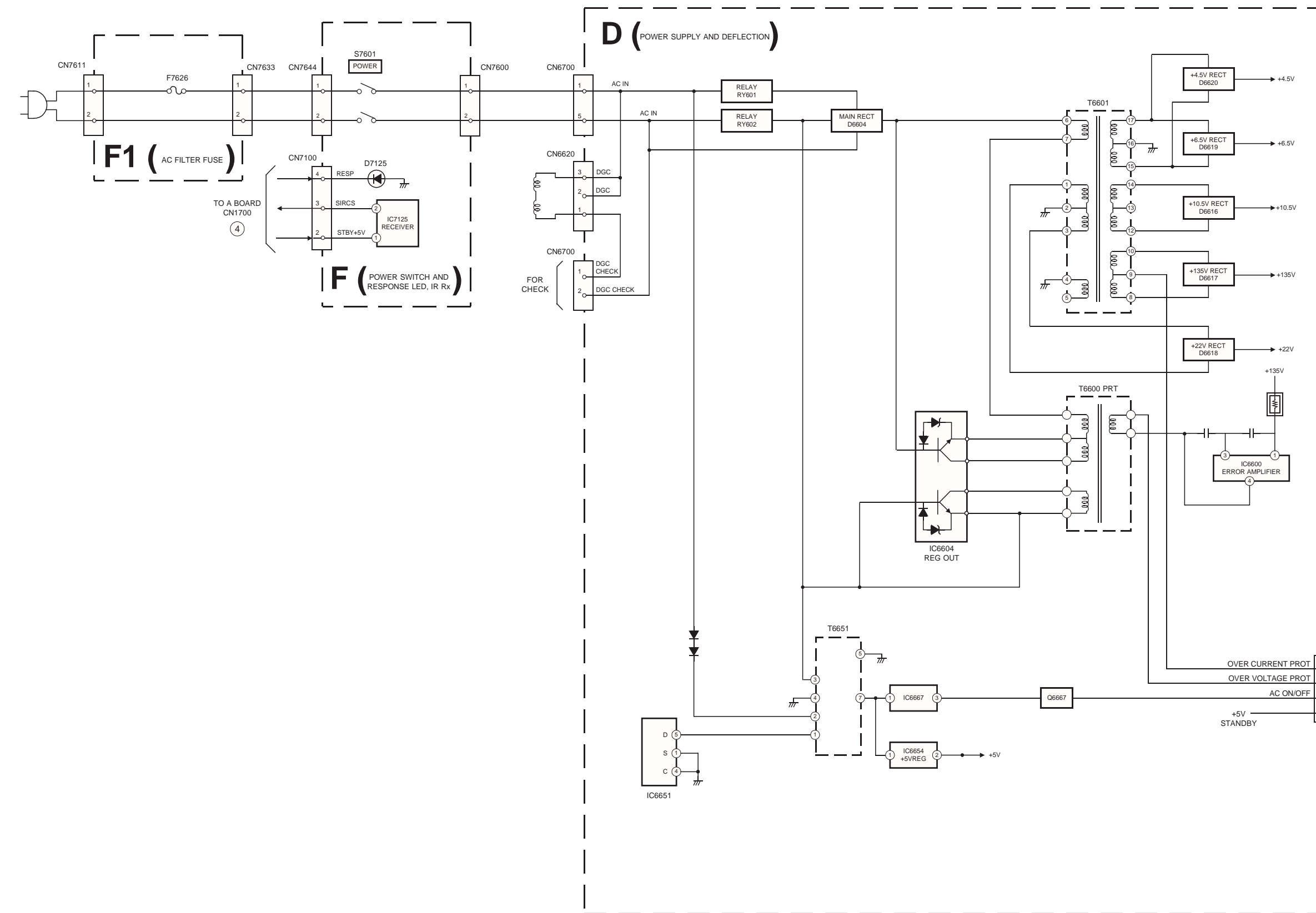
5-1 BLOCK DIAGRAMS (1)



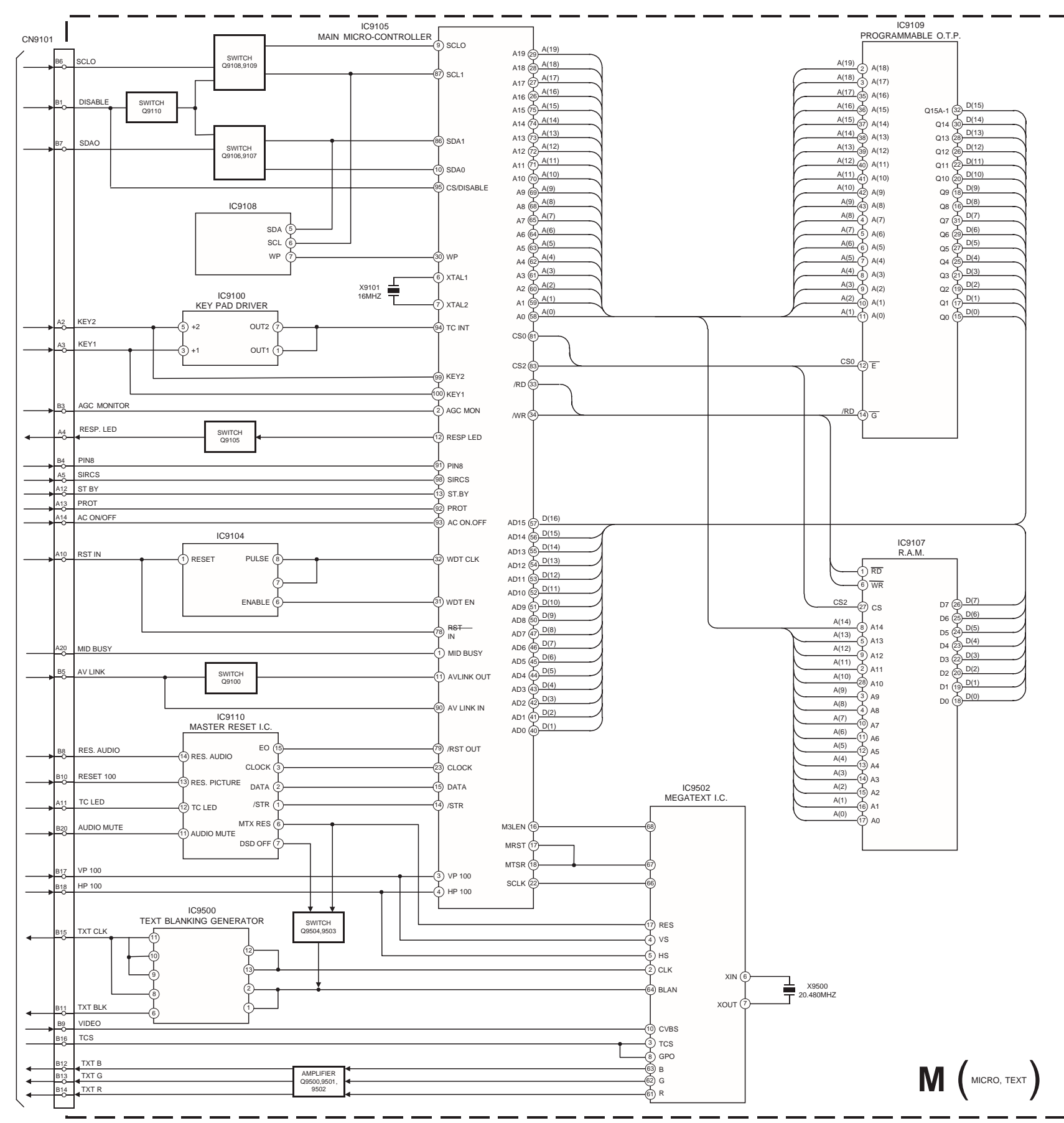
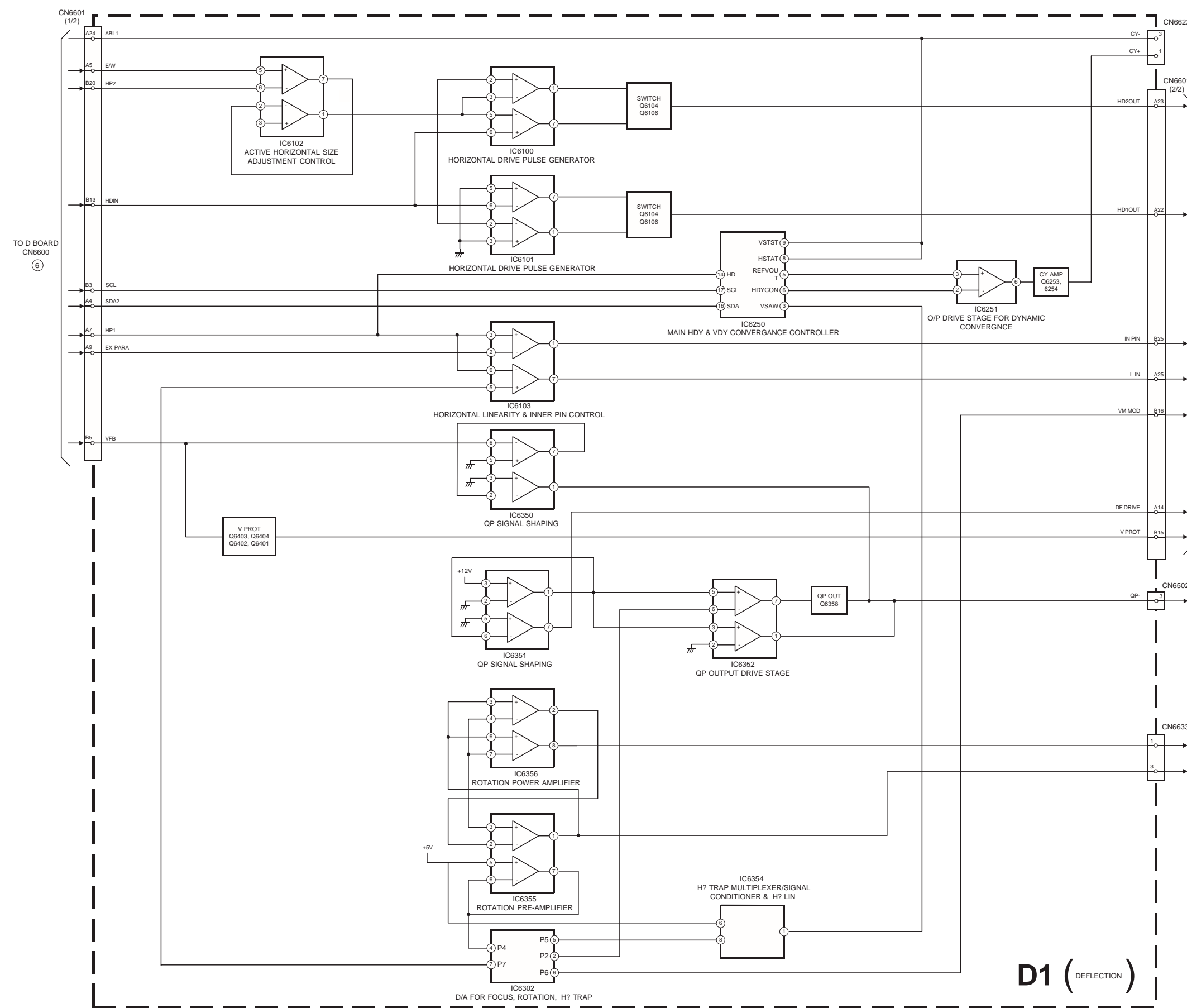
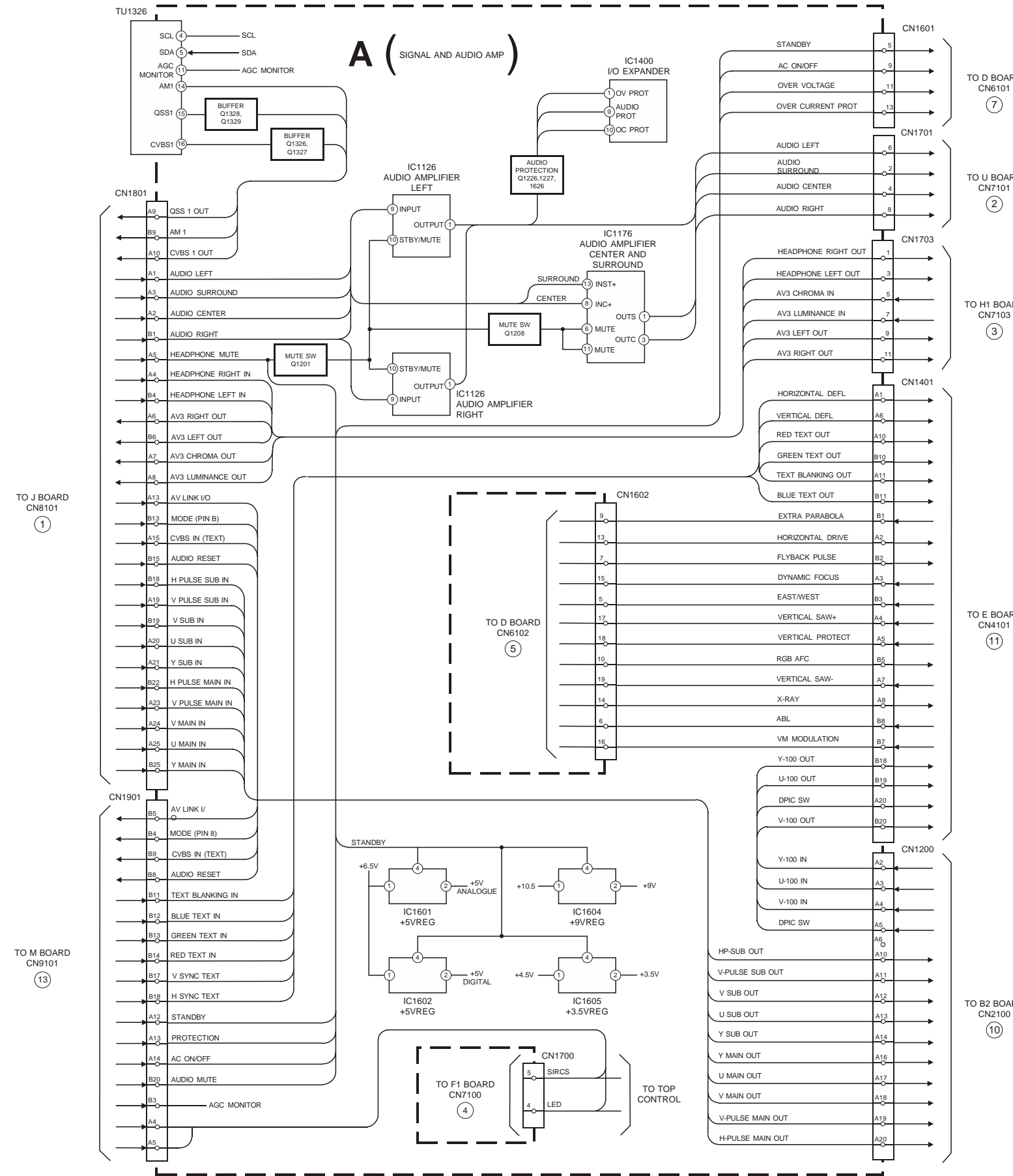
5-1 BLOCK DIAGRAMS (2)



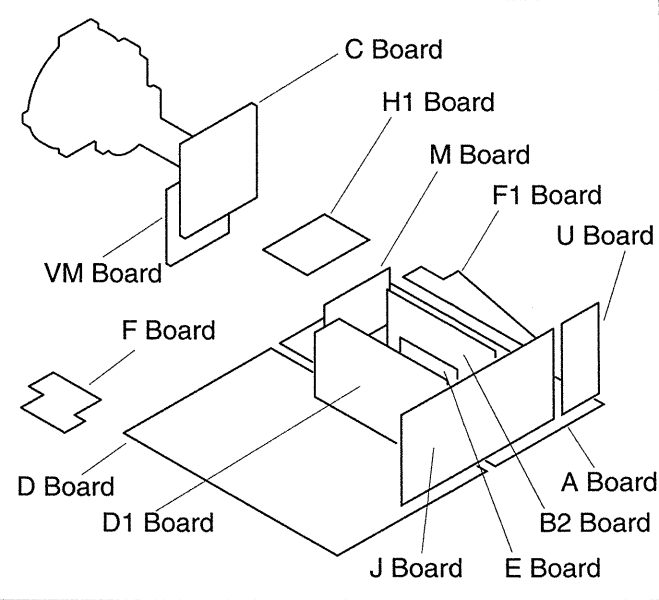
5-1 BLOCK DIAGRAMS (3)



5-1 BLOCK DIAGRAMS (4)



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted.
- pF : μF 50WV or less are not indicated except for electrolytic types.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Electrical power rating : 1/4W

- Chip resistors are 1/10W.
- All resistors are in ohms.
k = 1000 ohms, M = 1000,000 ohms

- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital multimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerances.

- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

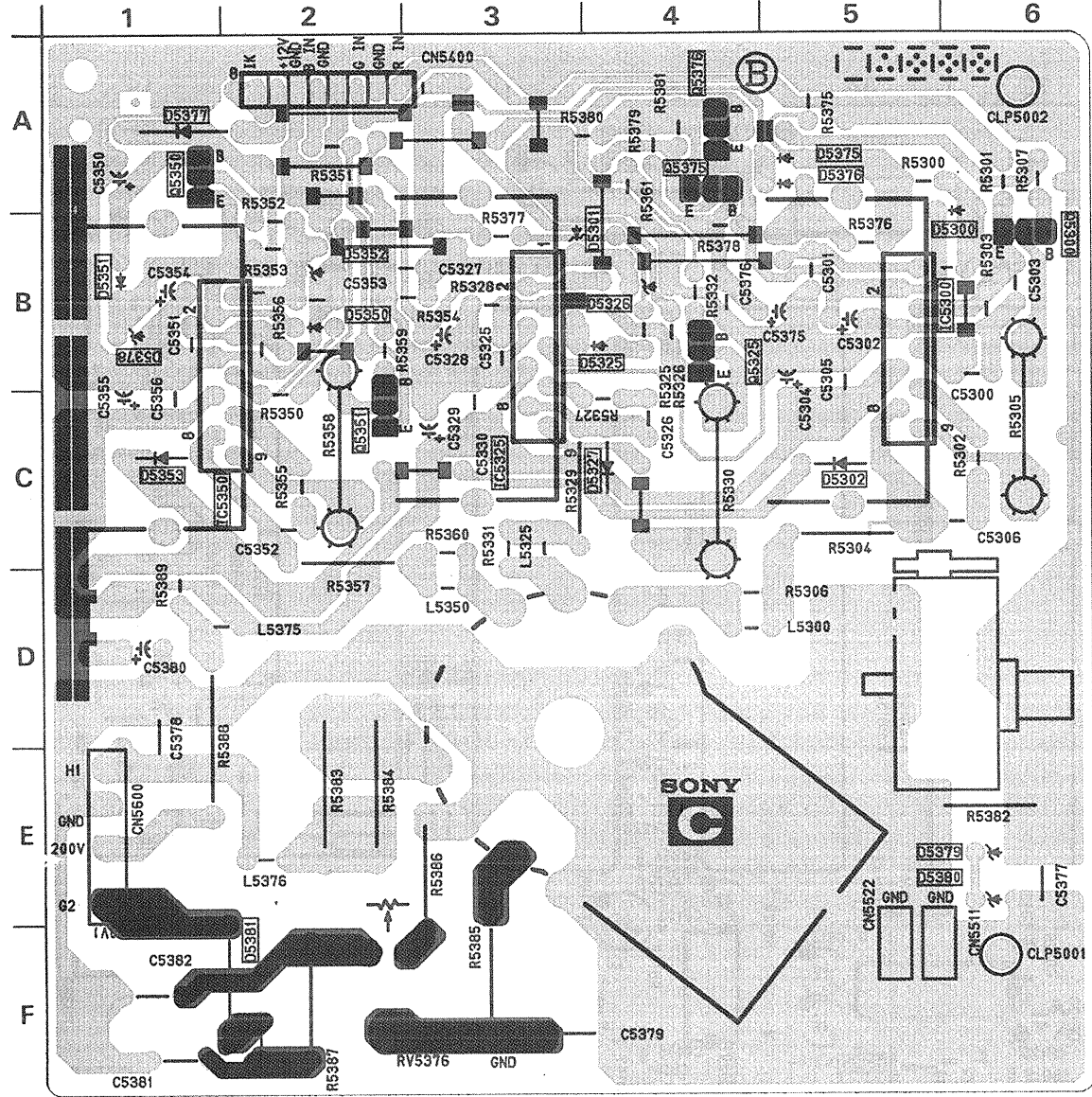
Note : The components identified by shading and marked are critical for safety. Replace only with the part numbers specified in the parts list.

Note : Les composants identifiés par une trame et par une marque sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

C

[CRT DRIVE]

C Board

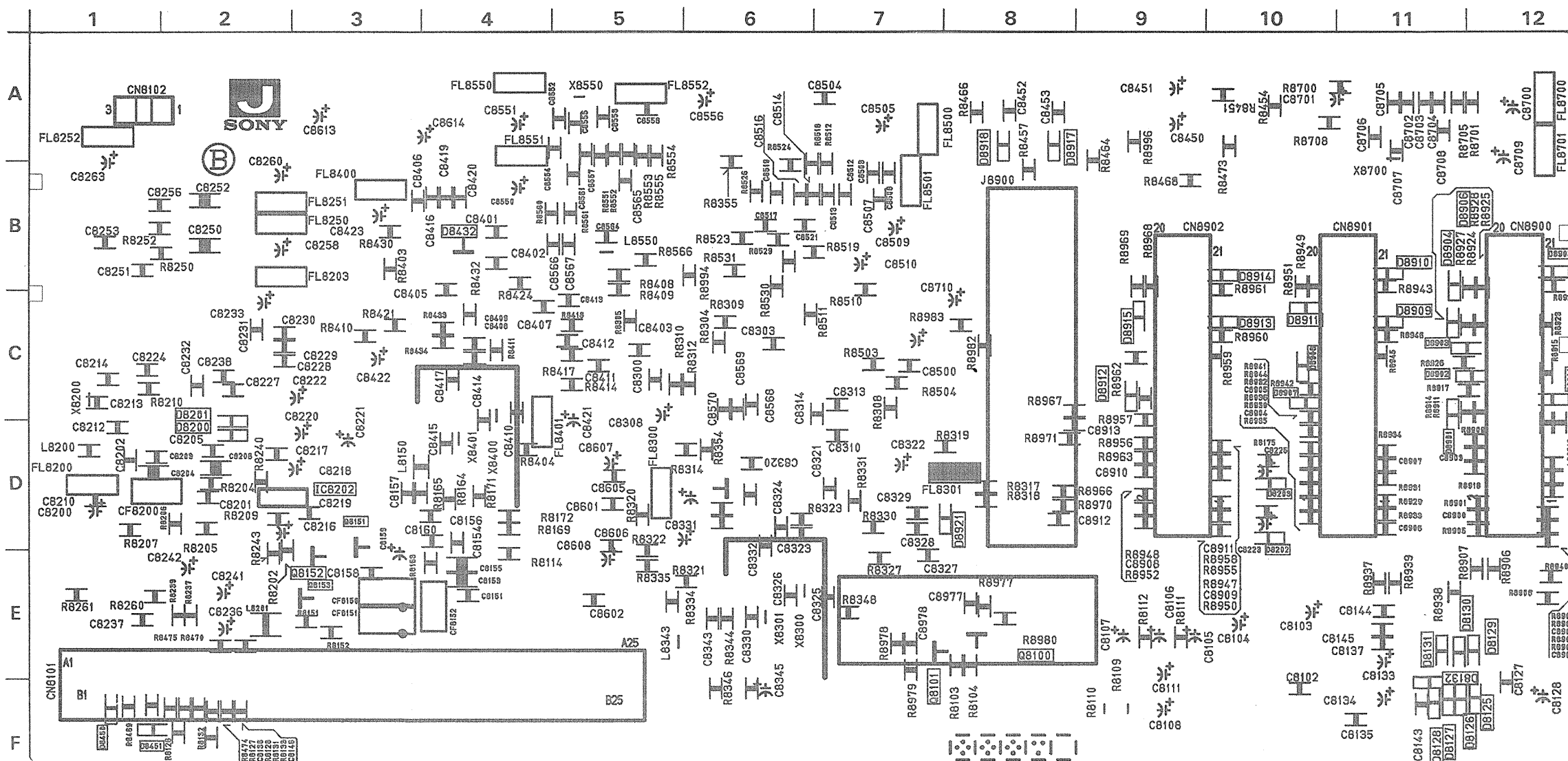


J BOARD

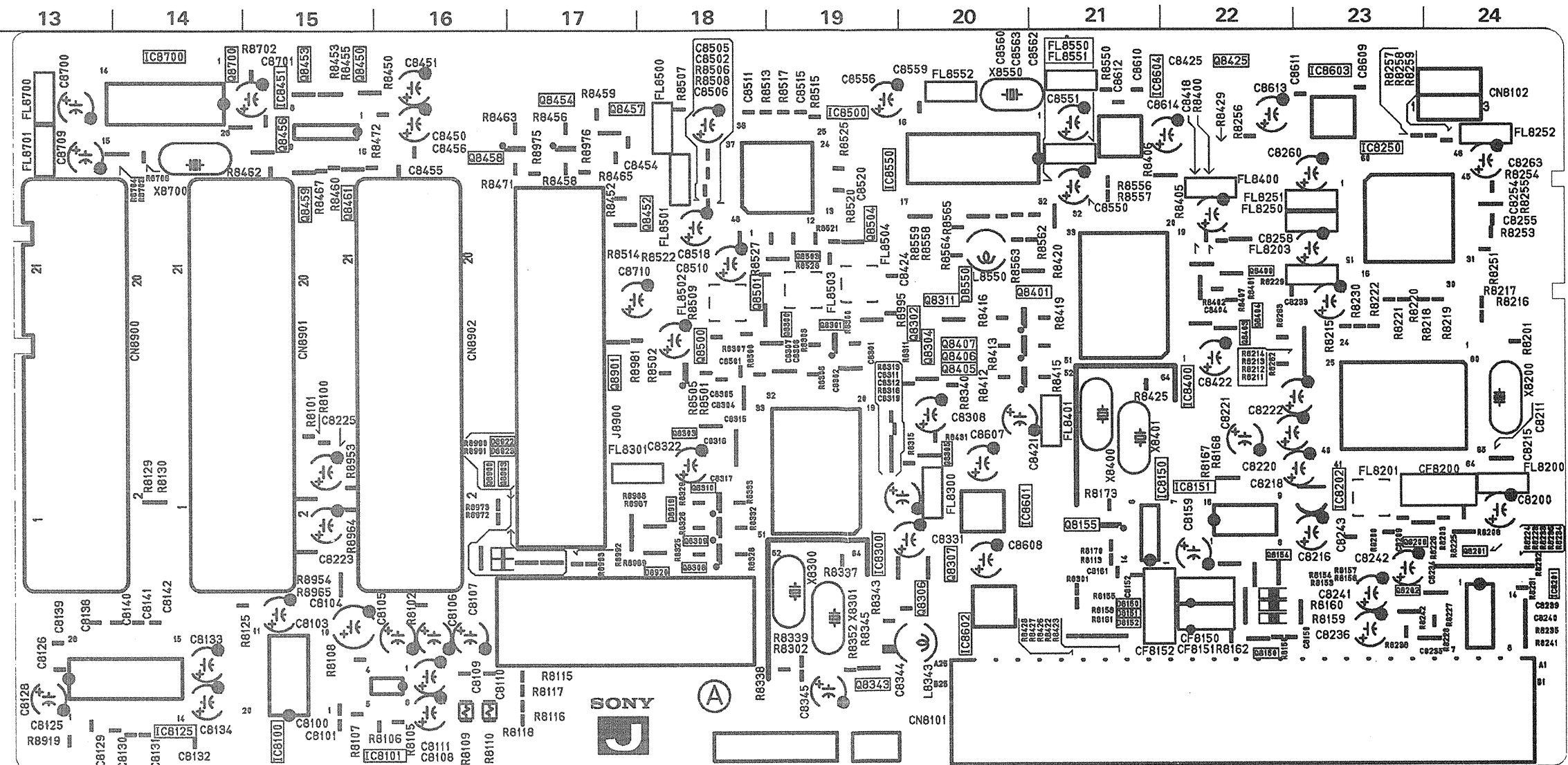
IC		Q8461	B - 15
IC8100	F - 15	Q8900	D - 16
IC8101	F - 15	Q8901	C - 17
IC8125	F - 14	Q8903	D - 16
IC8151	D - 22		
DIODE			
IC8201	E - 24	D8125	F - 12
IC8202	D - 23	D8126	F - 12
IC8300	E - 19	D8127	F - 11
IC8400	C - 22	D8128	F - 11
IC8451	A - 15	D8129	E - 12
IC8550	B - 19	D8130	E - 12
IC8601	D - 20	D8131	E - 11
IC8602	E - 20	D8200	D - 2
IC8603	A - 23	D8201	D - 2
IC8604	A - 21	D8202	E - 10
TRANSISTOR			
Q8200	E - 23	D8203	D - 10
Q8201	E - 24	D8432	B - 4
Q8202	E - 23	D8450	F - 1
Q8303	C - 19	D8550	C - 20
Q8304	C - 20	D8900	C - 12
Q8305	D - 20	D8902	C - 11
Q8307	D - 18	D8903	C - 11
Q8308	E - 18	D8904	B - 11
Q8309	E - 18	D8905	B - 12
Q8310	D - 18	D8906	B - 12
Q8311	C - 20	D8907	C - 10
Q8343	F - 19	D8908	C - 10
Q8400	B - 22	D8909	C - 11
Q8401	C - 20	D8910	B - 11
Q8403	C - 22	D8911	C - 10
Q8404	C - 22	D8912	C - 9
Q8405	C - 20	D8913	C - 10
Q8406	C - 20	D8914	B - 10
Q8407	C - 20	D8915	C - 9
Q8425	A - 22	D8922	D - 16
Q8450	A - 15	D8923	D - 16
Q8453	A - 15		
Q8456	A - 15		
Q8459	B - 15		

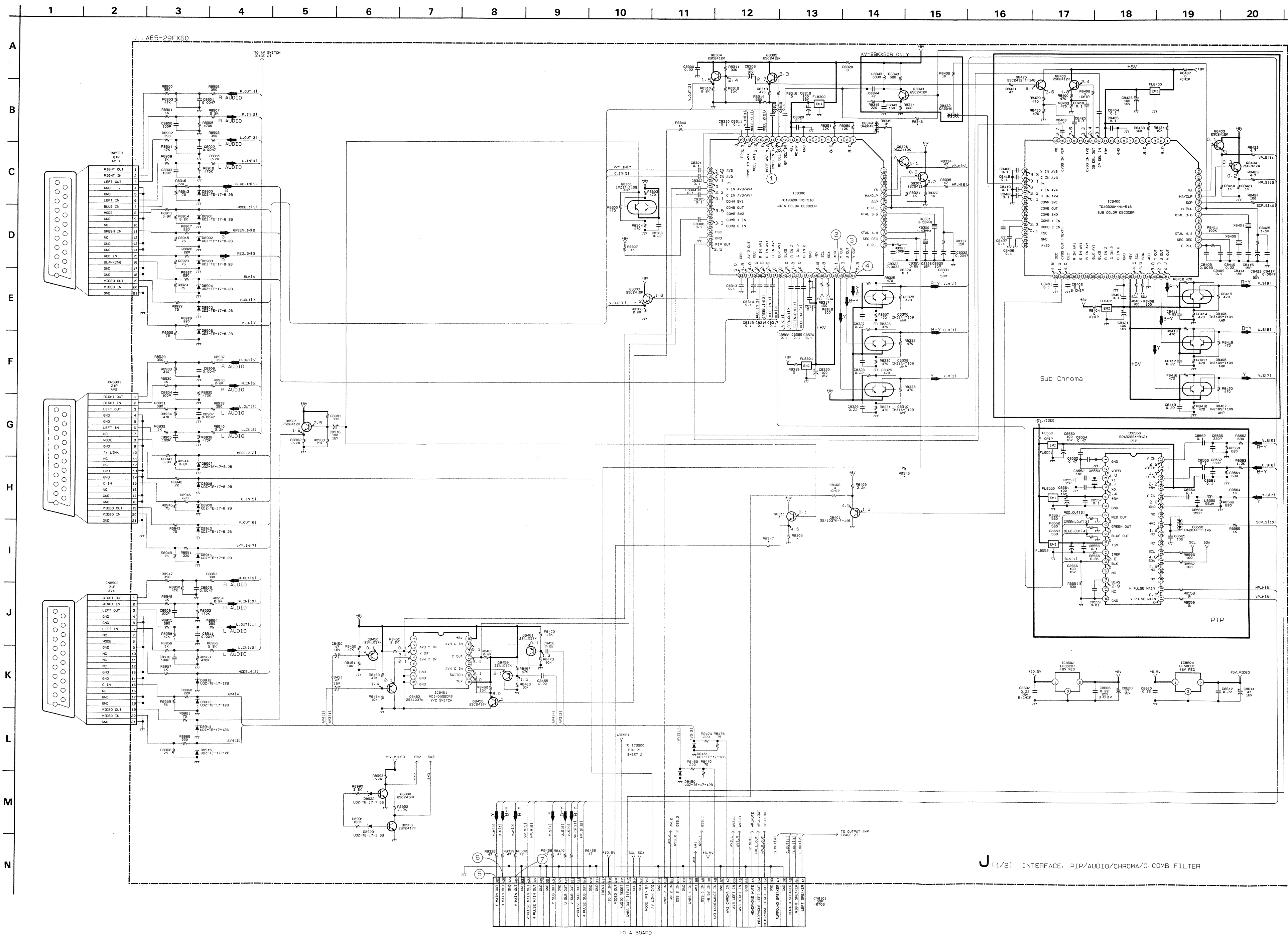
J INTERFACE / PIP /
AUDIO / CHROMA

J Board <Conductor Side>



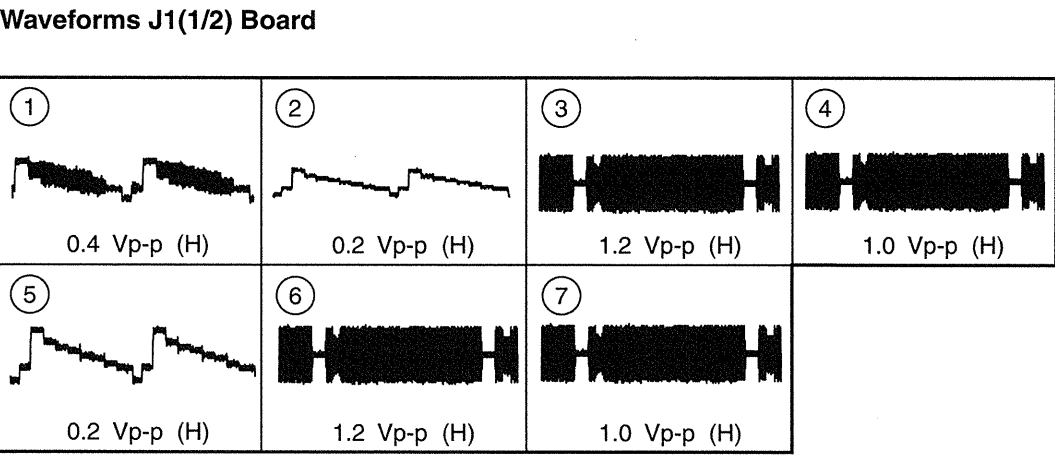
J Board <Component Side>





J BOARD * MARK

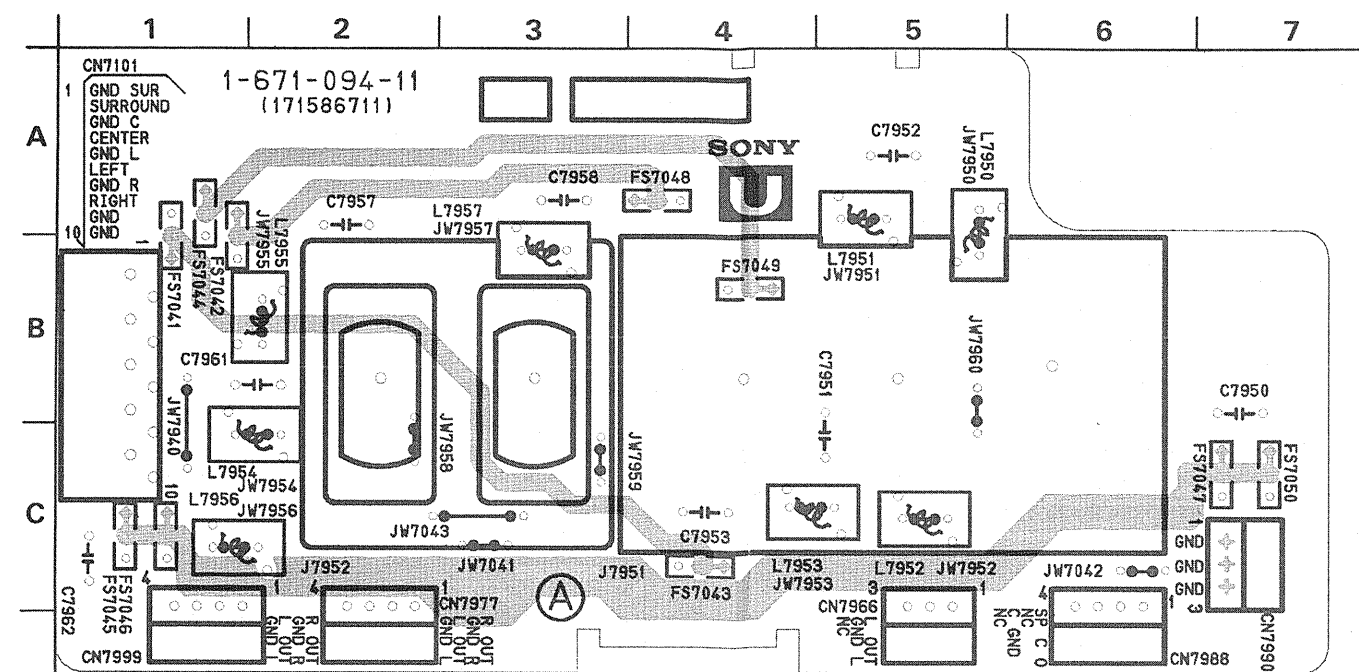
Ref	29FX60A	29FX60B	29FX60D	29FX60E	29FX60U
Q8311	-	2SC2412K-T 146-R	-	-	-
R8346	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0
R8347	-	100	-	-	-
R8348	-	SHORT 0	-	-	-



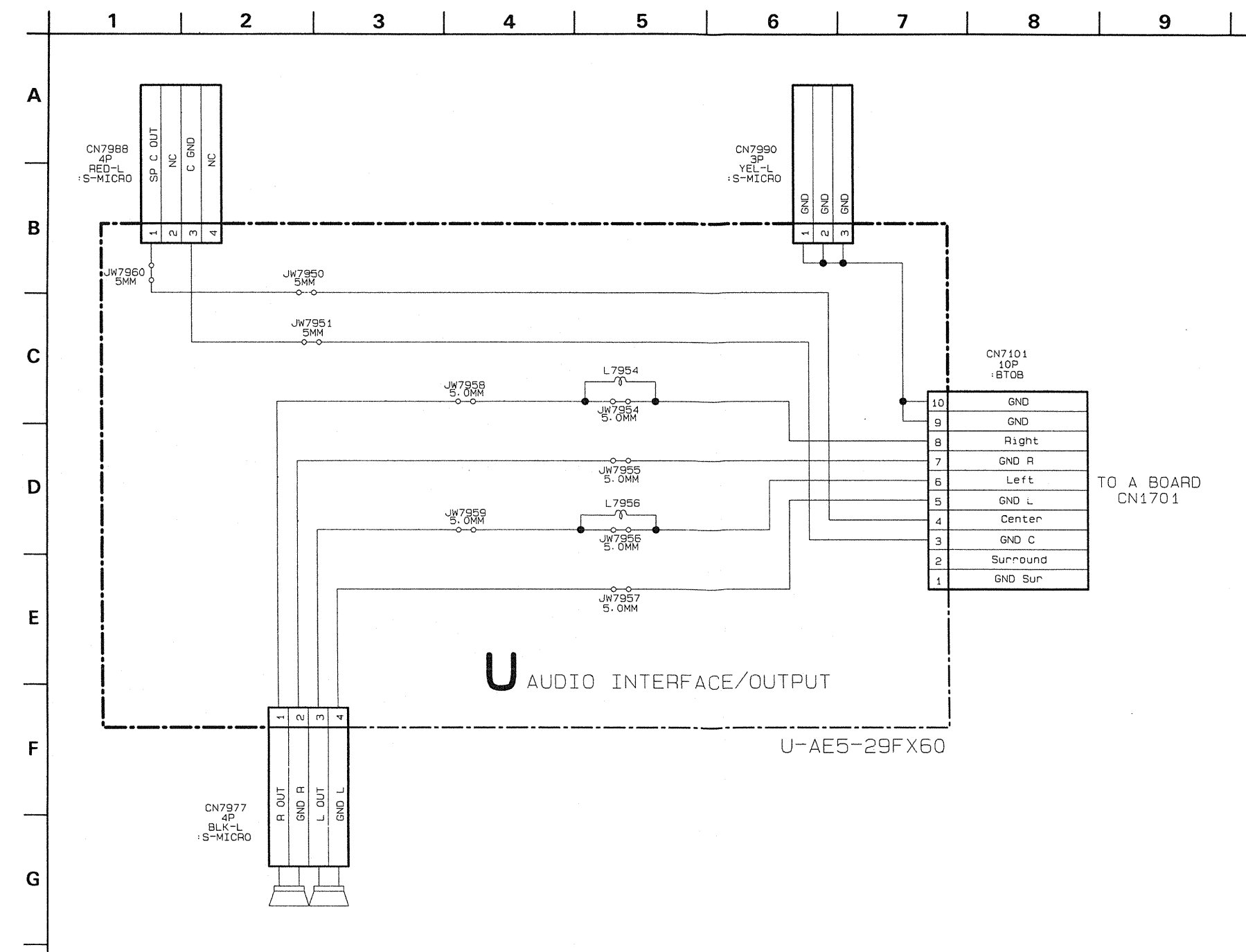
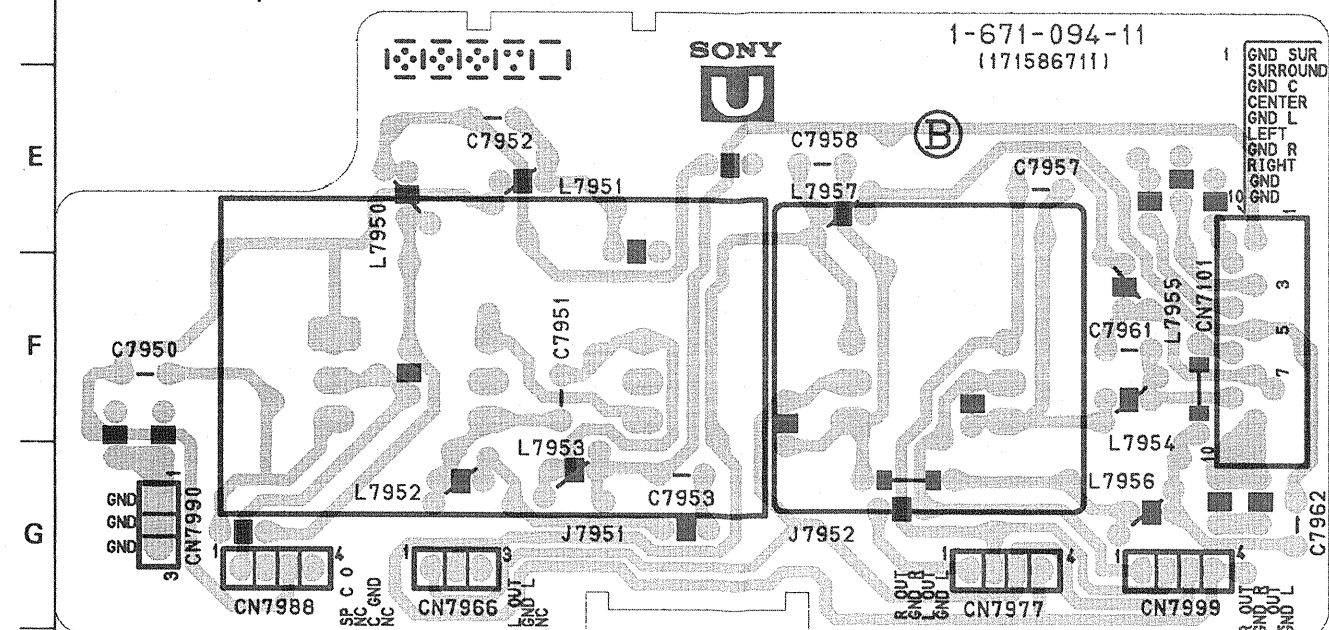
J (1/2) INTERFACE: PIP/AUDIO/CHROMA/G. COMB FILTER

U

U Board <Conductor Side>



D U Board <Component Side>

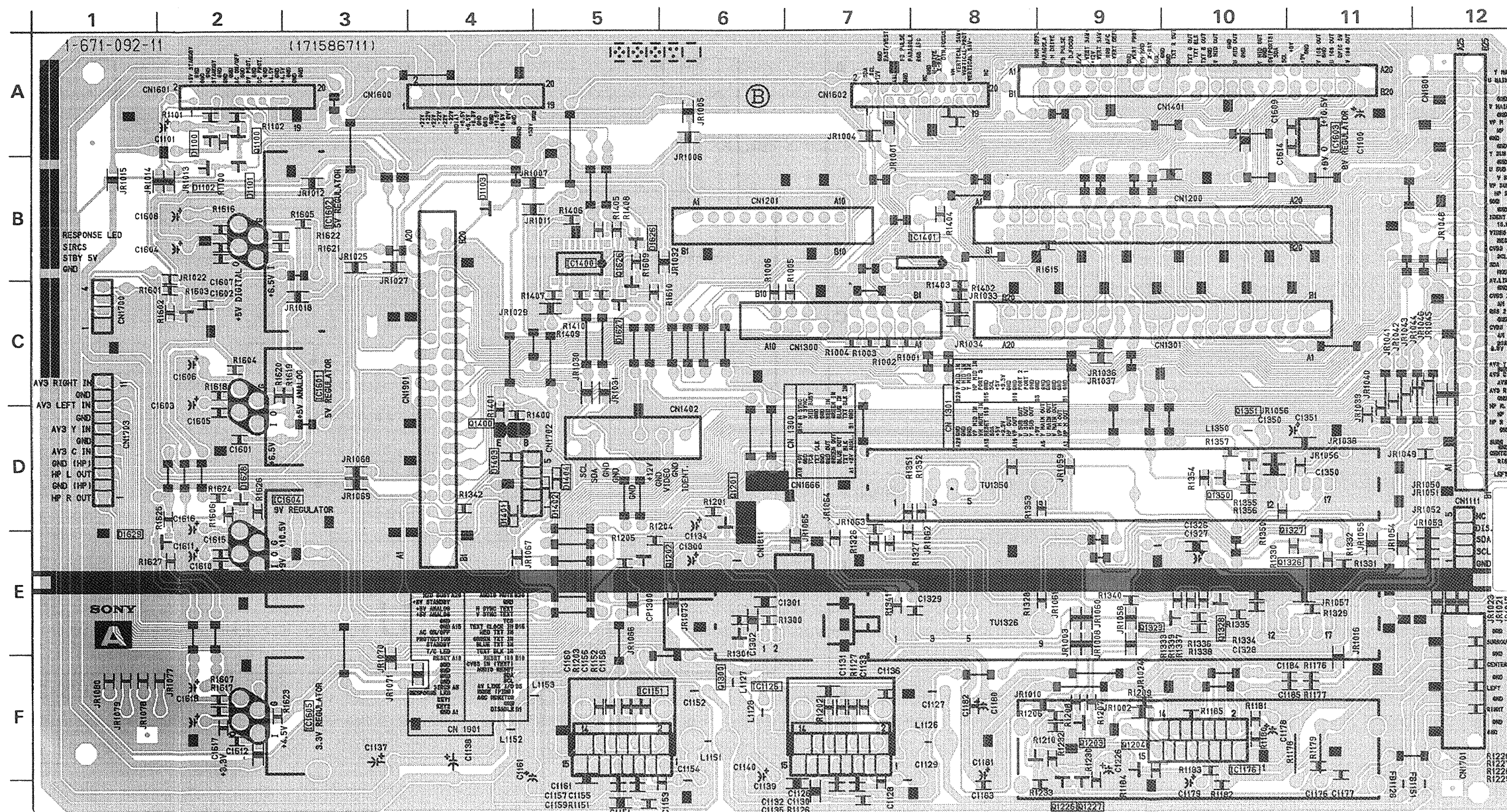


[SIGNAL AND AUDIO AMP]

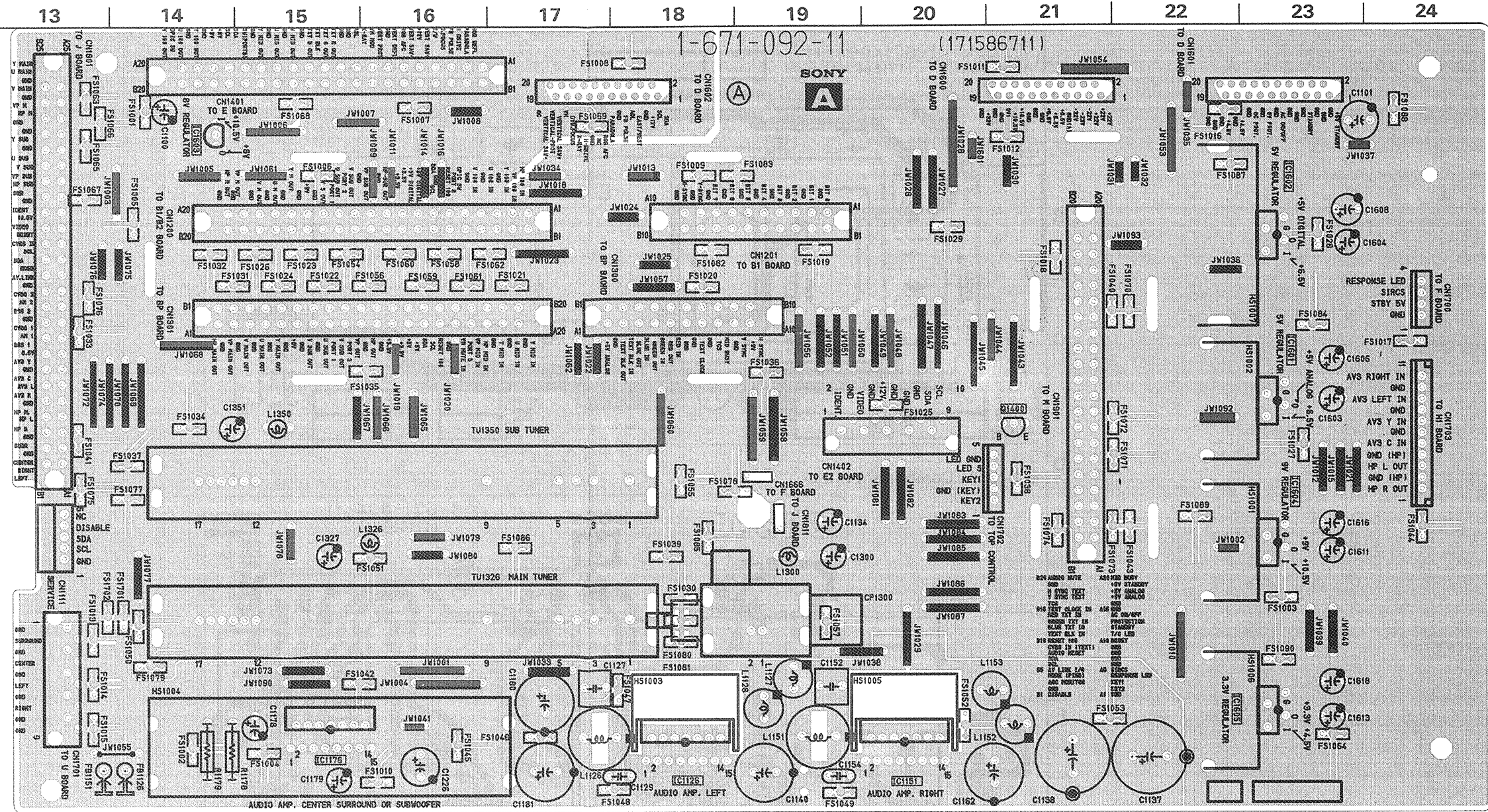
A Board <Conductor Side>

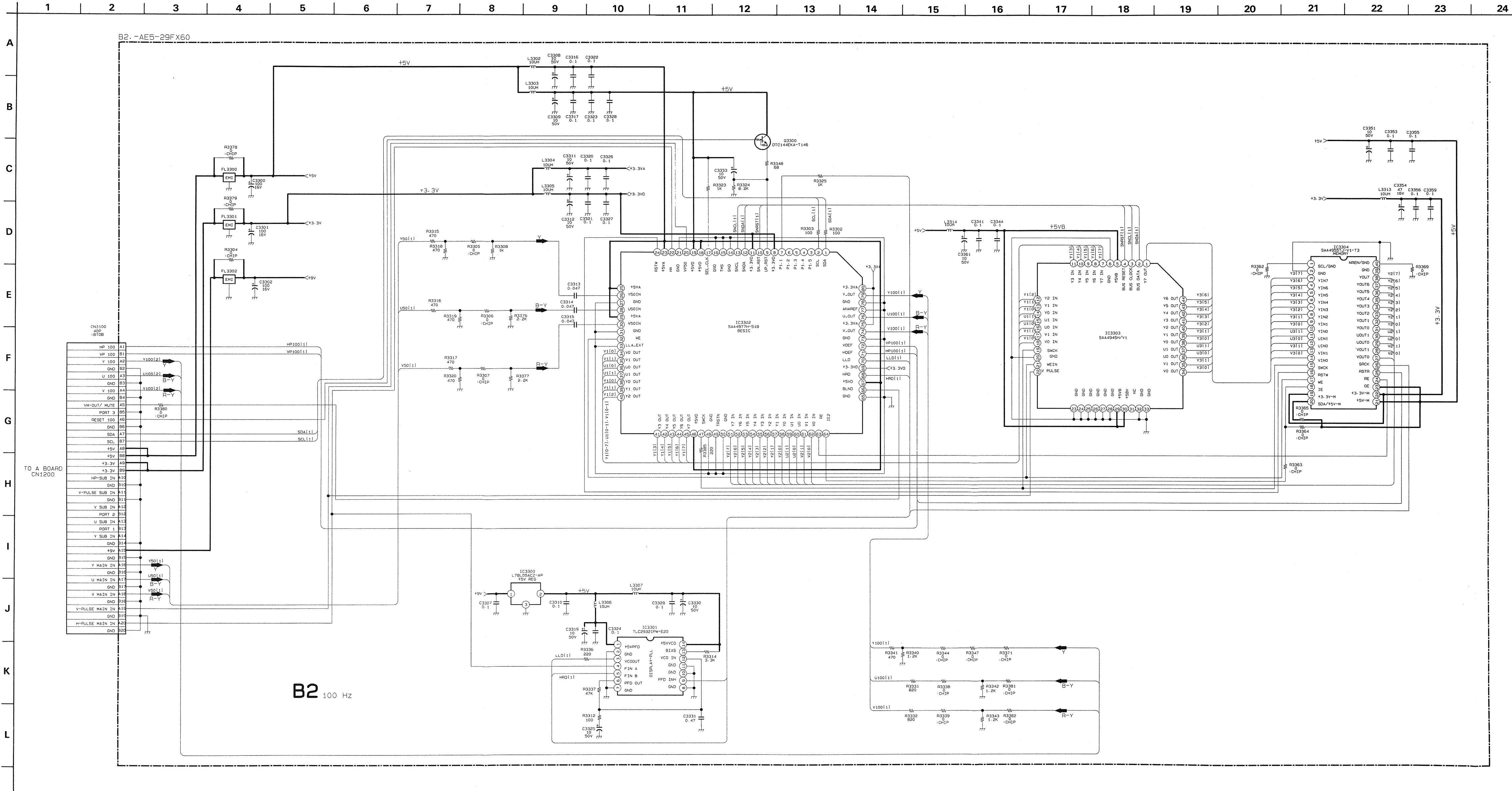
A BOARD

IC		DIODE	
IC1126	F - 6	D1100	A - 2
IC1151	F - 5	D1101	B - 2
IC1176	G - 15	D1102	B - 2
IC1400	B - 5	D1103	B - 4
IC1601	C - 3	D1401	E - 4
IC1602	B - 3	D1402	D - 5
IC1603	A - 11	D1403	D - 4
IC1604	D - 3	D1404	D - 5
IC1605	F - 3	D1626	B - 6
TRANSISTOR		D1627	C - 5
Q1100	A - 2	D1629	E - 1
Q1201	D - 6		
Q1202	E - 6		
Q1203	F - 9		
Q1204	F - 9		
Q1226	G - 9		
Q1227	G - 9		
Q1326	E - 11		
Q1327	E - 11		
Q1328	E - 10		
Q1329	E - 10		
Q1400	D - 4		
Q1626	B - 5		



A Board <Component Side>

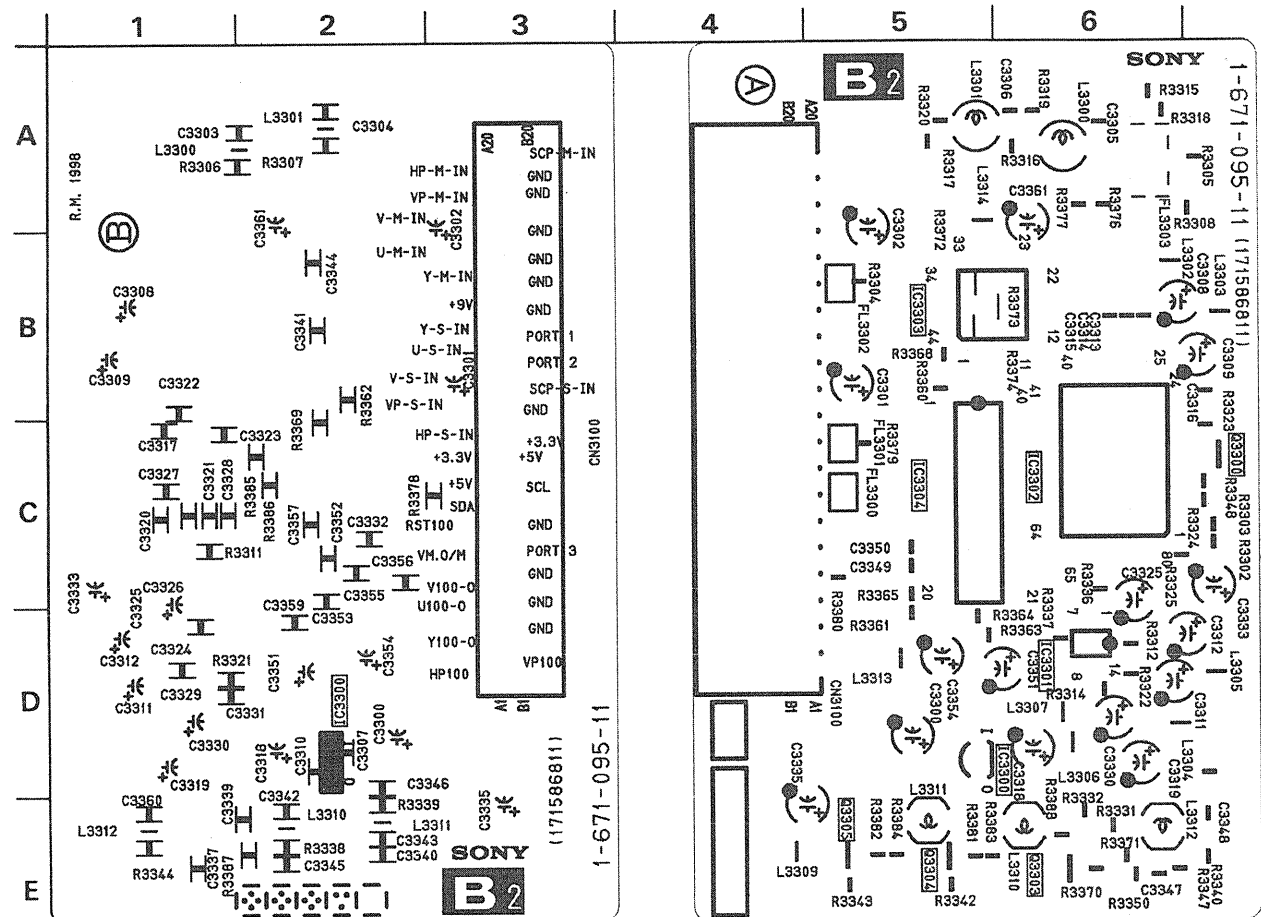




B2 [100 Hz]

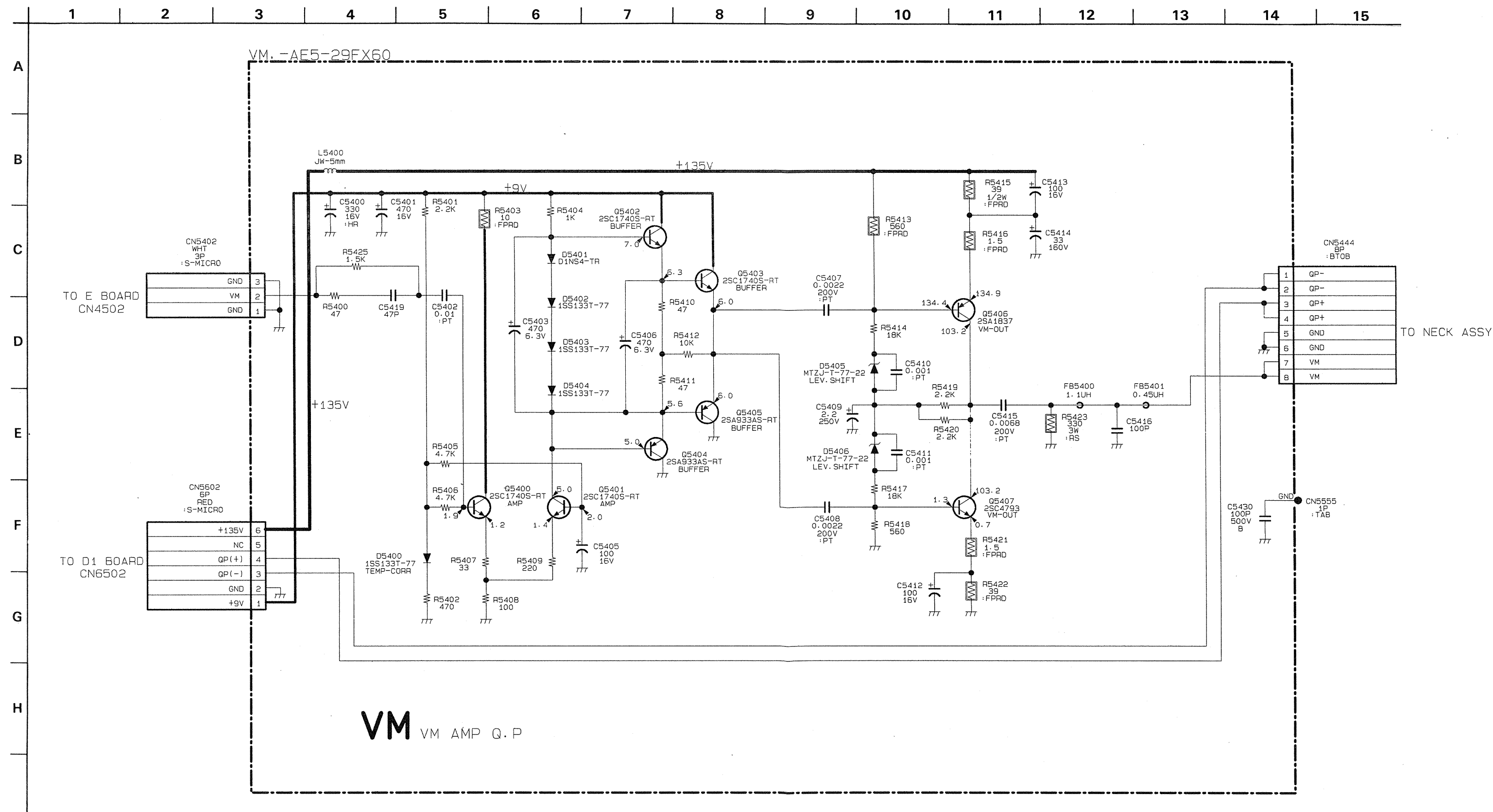
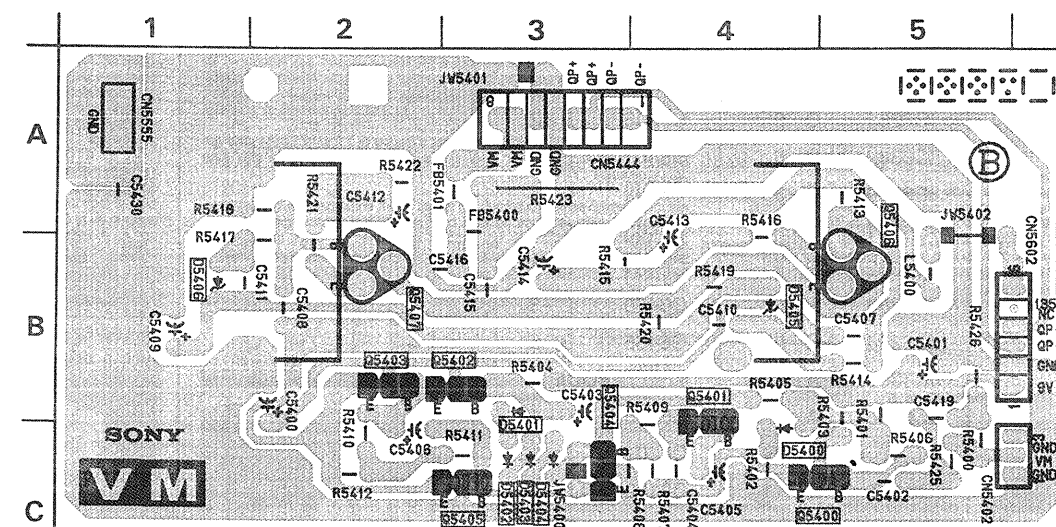
B2 Board <Conductor Side>

B2 Board <Component Side>



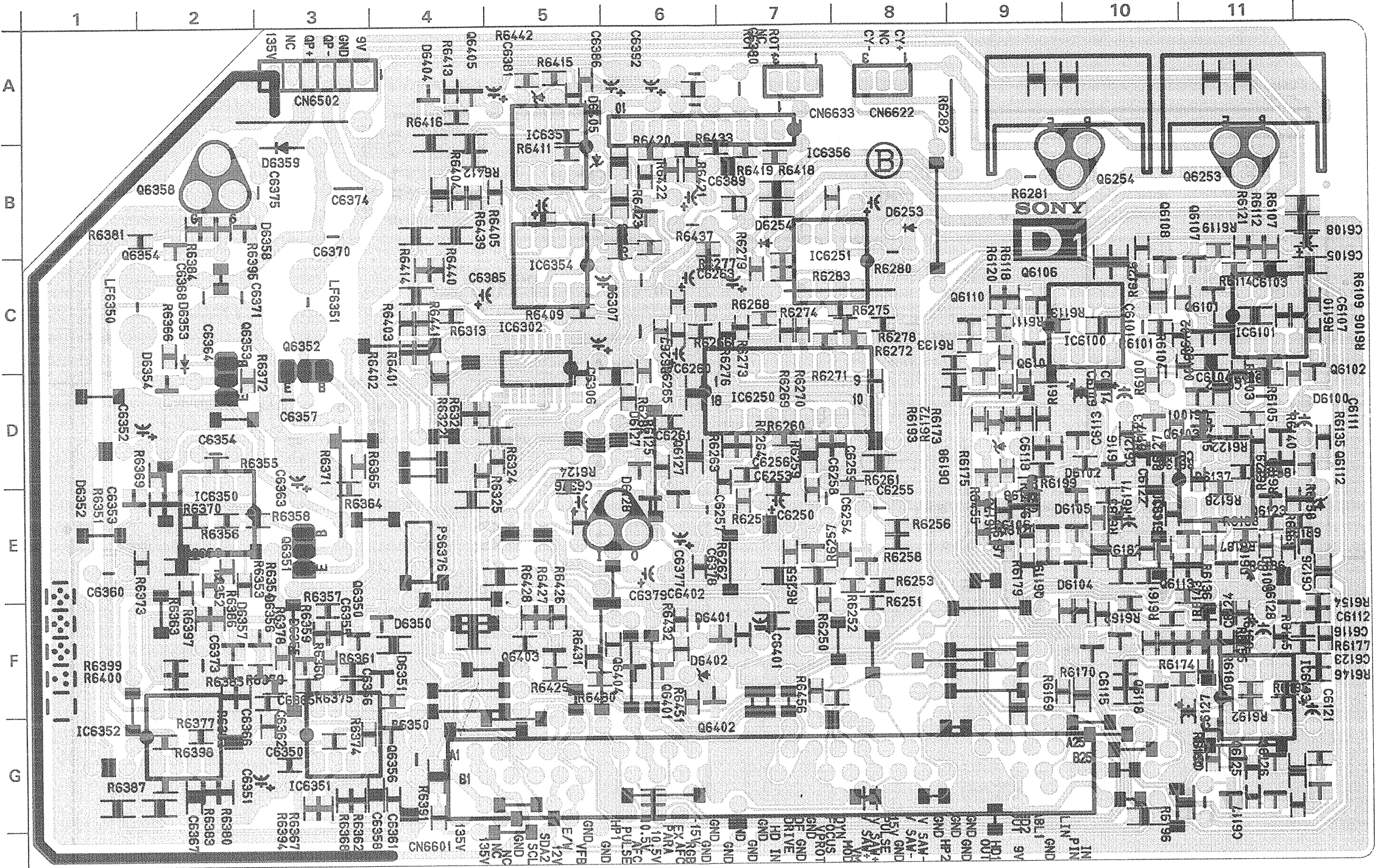


VM Board



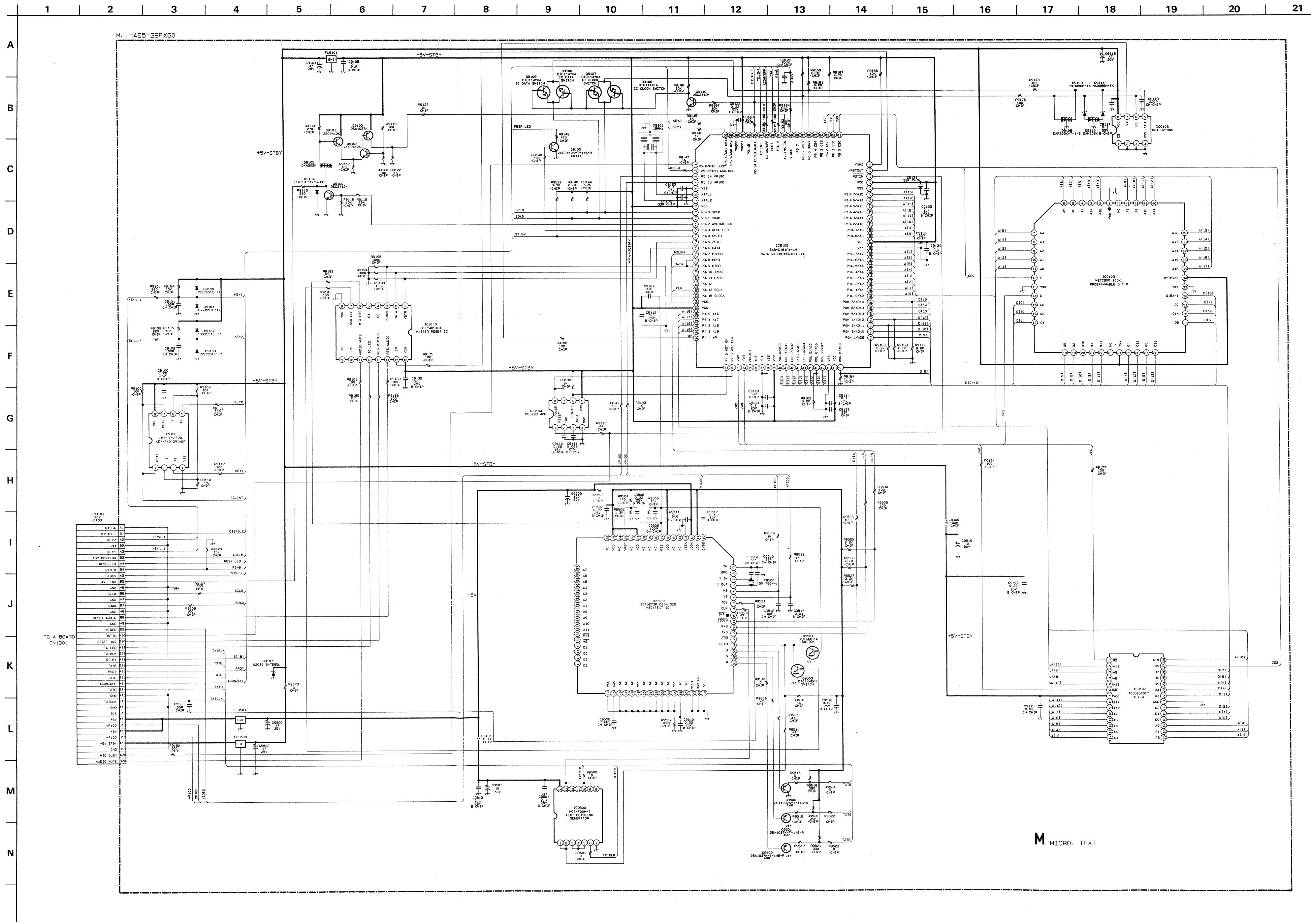
D1 [DEFLECTION]

D1 Board



D1 BOARD

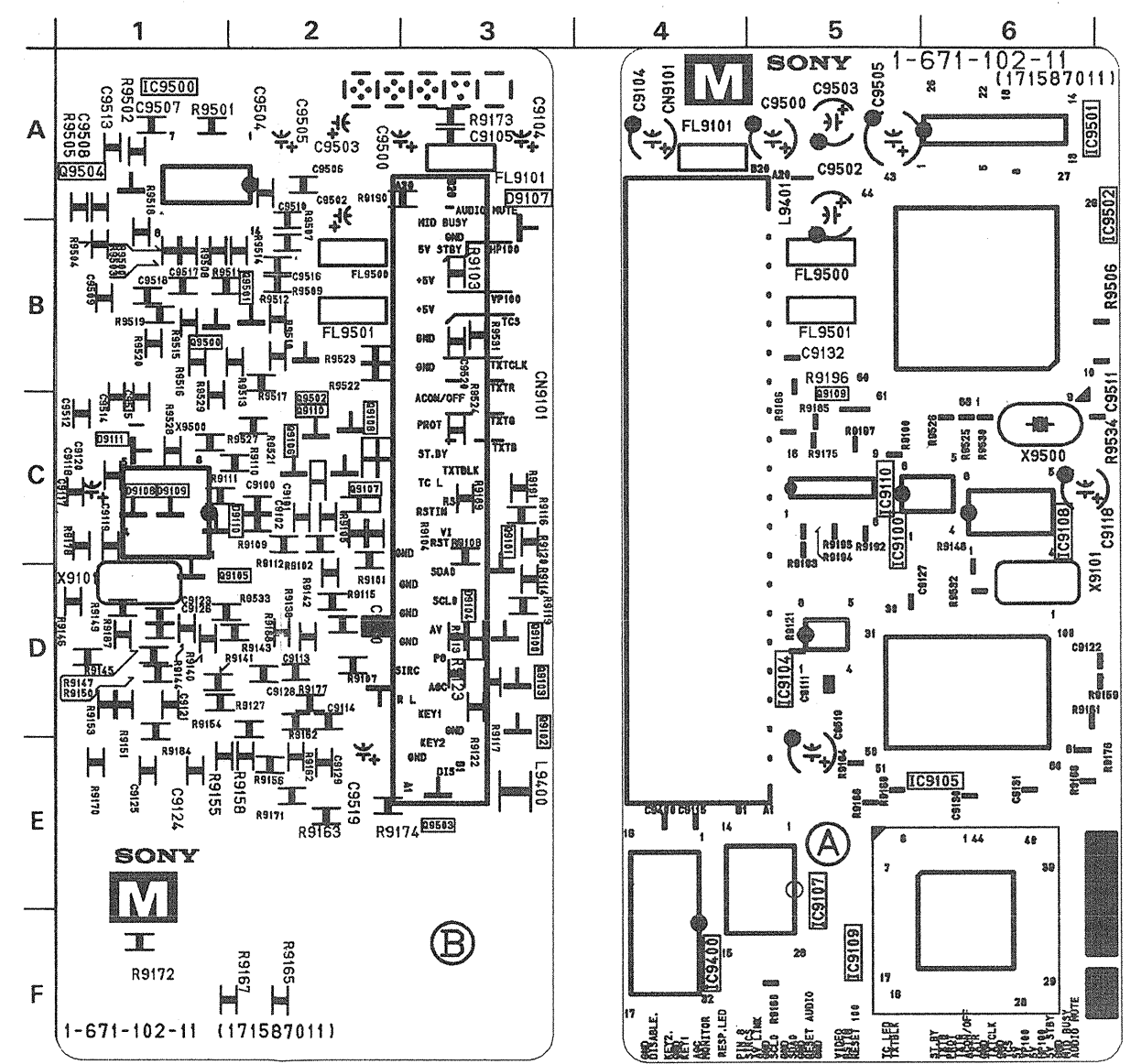
IC		Q6350	E - 8
IC6100	C - 9	Q6351	E - 3
IC6101	C - 12	Q6352	D - 3
IC6102	D - 11	Q6353	C - 2
IC6103	G - 12	Q6354	C - 2
IC6250	D - 8	Q6356	G - 4
IC6251	C - 8	Q6258	B - 2
IC6302	D - 5	Q6401	F - 7
IC6350	D - 3	Q6402	G - 6
IC6351	G - 3	Q6403	F - 5
IC6352	G - 1	Q6404	G - 6
IC6353	E - 5	Q6455	C - 8
IC6354	C - 5	Q6465	B - 5
IC6355	A - 5	DIODE	
IC6356	A - 6	D6100	D - 12
TRANSISTOR		D6101	E - 12
Q6100	D - 11	D6102	D - 10
Q6101	C - 11	D6104	E - 9
Q6102	C - 12	D6105	E - 9
Q6104	C - 9	D6106	E - 8
Q6105	B - 11	D6108	F - 11
Q6106	C - 9	D6127	D - 6
Q6107	E - 11	D6128	E - 6
Q6108	B - 10	D6129	D - 8
Q6110	C - 8	D6198	D - 8
Q6118	G - 10	D6253	B - 8
Q6119	E - 8	D6254	B - 7
Q6120	E - 9	D6350	F - 4
Q6122	E - 9	D6351	F - 4
Q6123	E - 12	D6352	E - 1
Q6125	H - 11	D6353	C - 2
Q6126	H - 11	D6354	D - 2
Q6127	E - 6	D6355	E - 3
Q6128	F - 12	D6358	B - 2
Q6130	H - 11	D6359	B - 3
Q6131	G - 12	D6401	F - 7
Q6201	F - 10	D6402	F - 6
Q6202	F - 10	D6403	A - 5
Q6250	E - 8	D6404	A - 4
Q6251	E - 8	D6405	A - 5
Q6252	B - 10		
Q6253	B - 11		
Q6254	C - 2		



M [MICRO, TEXT]

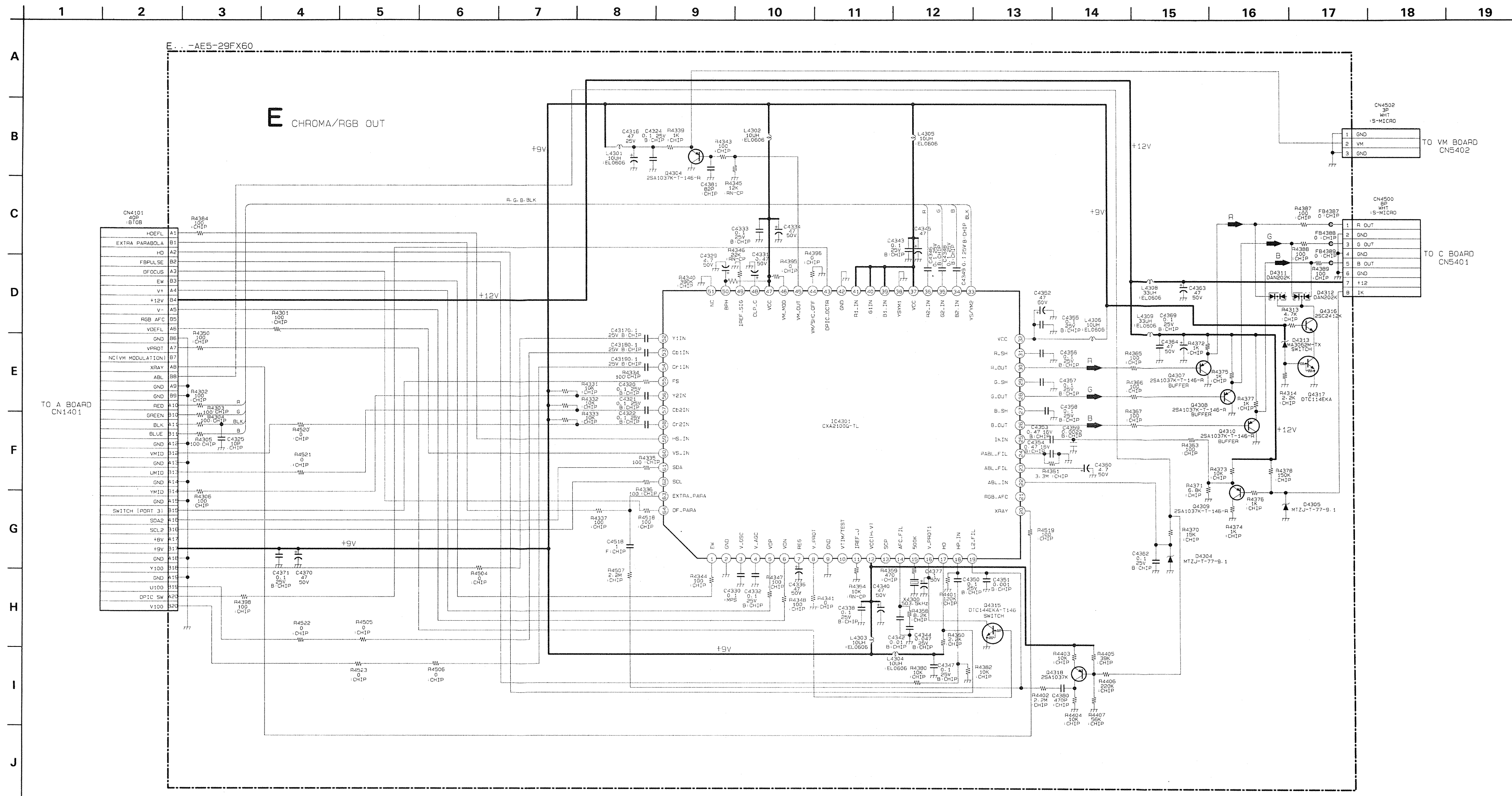
M Board <Conductor Side>

M Board <Component Side>



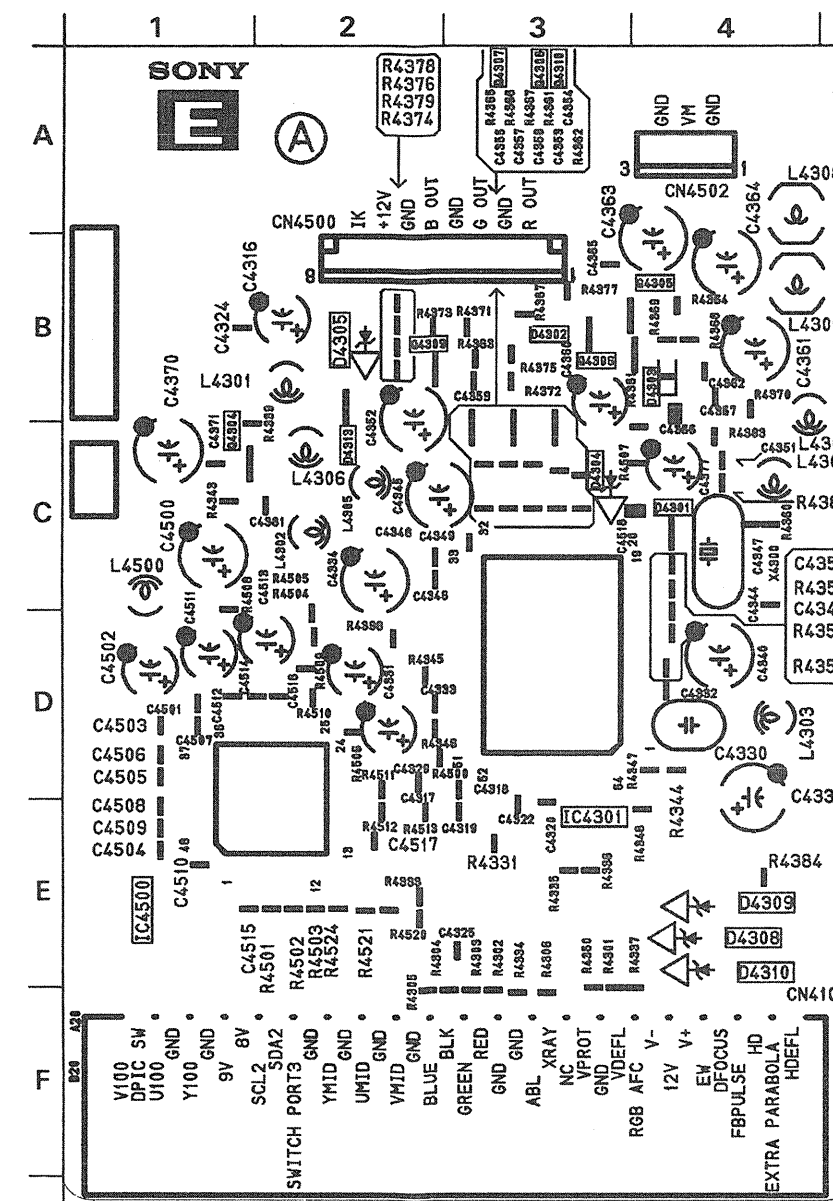
M BOARD

IC	
IC9100	C - 5
IC9104	D - 5
IC9105	E - 6
IC9107	E - 5
IC9108	C - 6
IC9109	F - 5
IC9110	C - 5
IC9500	A - 1
IC9502	B - 6
TRANSISTOR	
Q9100	D - 3
Q9101	C - 3
Q9102	D - 3
Q9103	D - 3
Q9105	D - 1
Q9106	C - 2
Q9107	C - 2
Q9108	C - 2
Q9109	B - 5
Q9110	C - 2
Q9500	B - 1
Q9501	B - 2
Q9502	C - 2
Q9503	E - 3
Q9504	A - 1
DIODE	
D9104	D - 3
D9107	A - 3
D9108	C - 1
D9109	C - 1
D9110	C - 2
D9111	C - 1



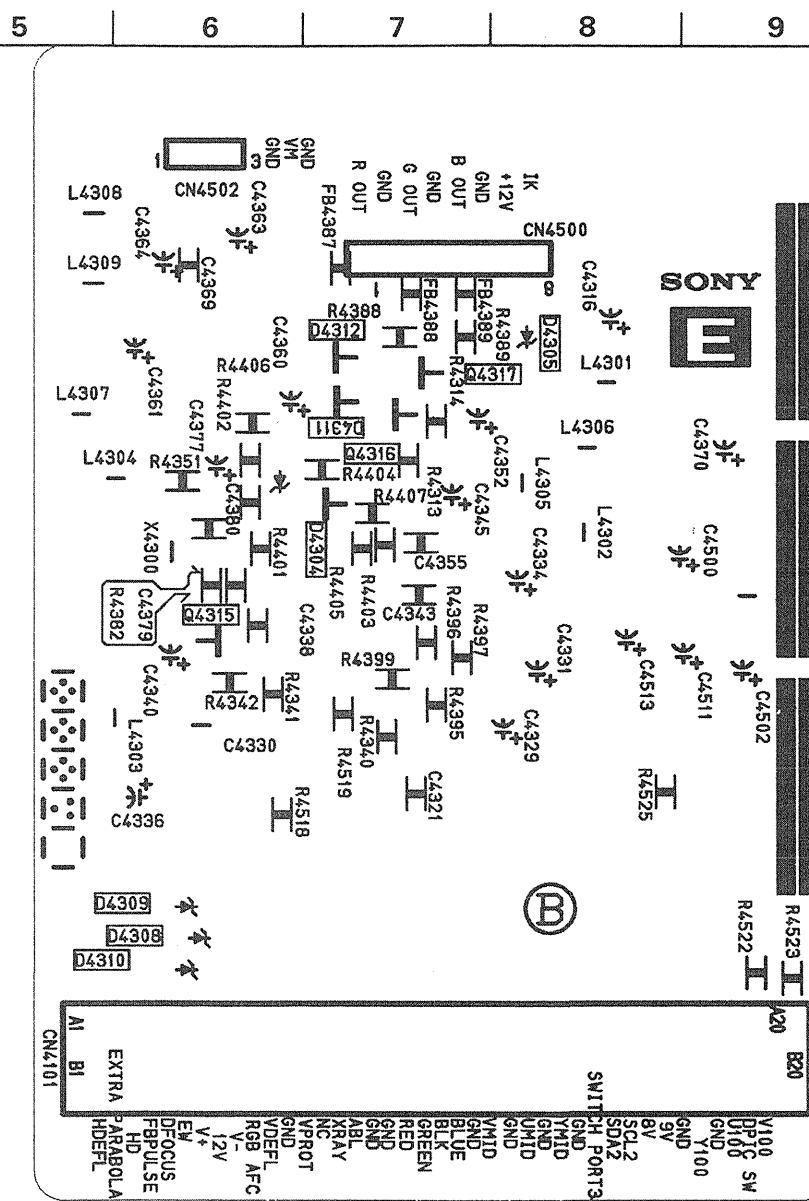
E [RGB OUT / CHROMA]

E Board <Conductor Side>



MC-Service

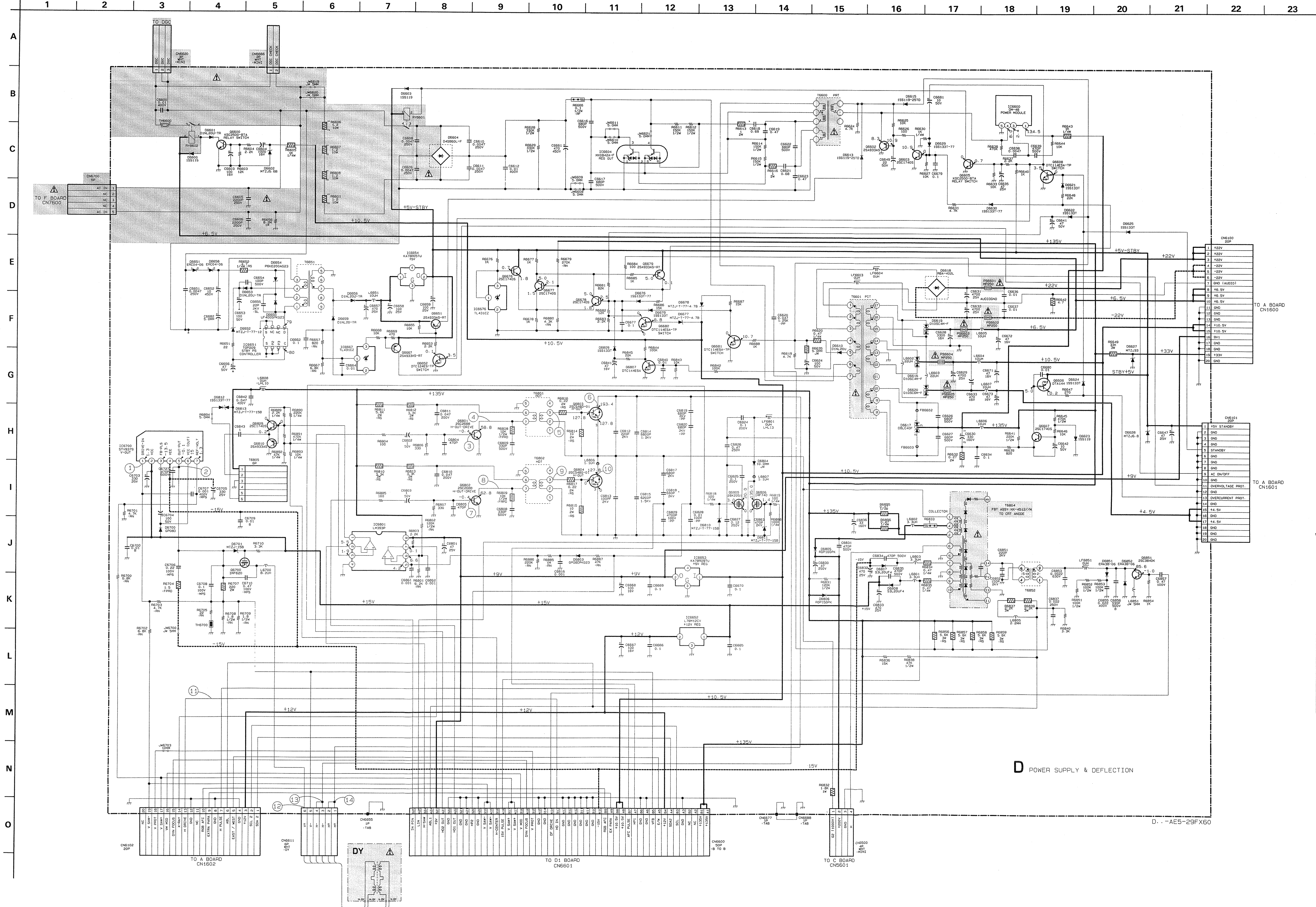
E Board <Component Side>



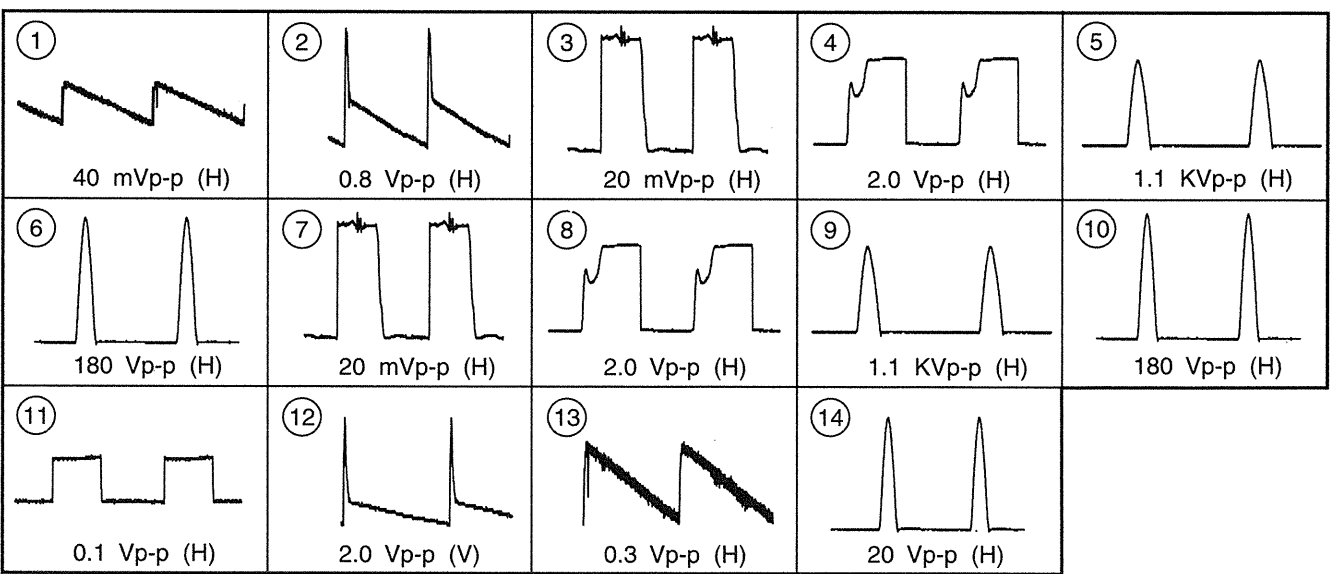
IC		D6613	D - 12
IC6600	F - 9	D6615	C - 12
IC6604	H - 11	D6616	D - 9
IC6651	G - 13	D6617	D - 8
IC6652	A - 7	D6618	B - 11
IC6653	A - 9	D6619	B - 8
IC6654	D - 12	D6620	B - 9
IC6667	E - 14	D6621	B - 12
IC6700	D - 6	D6623	E - 8
IC6801	A - 3	D6624	B - 13
TRANSISTOR		D6625	A - 12
Q6600	J - 6	D6627	A - 10
Q6602	G - 9	D6628	A - 13
Q6603	G - 8	D6629	B - 12
Q6605	D - 12	D6651	I - 13
Q6606	A - 13	D6652	H - 13
Q6607	E - 8	D6653	H - 13
Q6651	E - 13	D6654	G - 12
Q6652	E - 14	D6655	G - 13
Q6667	E - 13	D6656	E - 13
Q6676	D - 13	D6658	H - 13
Q6677	D - 14	D6659	F - 13
Q6678	D - 13	D6676	C - 13
Q6679	C - 13	D6677	C - 13
Q6680	C - 13	D6678	C - 13
Q6681	D - 13	D6679	D - 13
Q6700	C - 6	D6681	E - 13
Q6801	H - 2	D6700	C - 5
Q6802	E - 6	D6701	H - 2
Q6803	F - 2	D6803	B - 3
Q6804	D - 5	D6804	C - 3
Q6805	E - 13	D6805	G - 3
Q6806	D - 13	D6806	H - 3
Q6807	B - 3	D6807	G - 7
Q6809	A - 2	D6808	G - 8
Q6810	A - 2	D6809	B - 13
Q6851	I - 2	D6811	D - 3
DIODE		D6812	B - 2
D6600	J - 7	D6813	B - 2
D6601	J - 7	D6851	H - 2
D6602	J - 6	D6852	1 - 2
D6603	D - 12		
D6604	I - 11		
D6610	C - 12		

MC-Service

[POWER SUPPLY AND DEFLECTION]

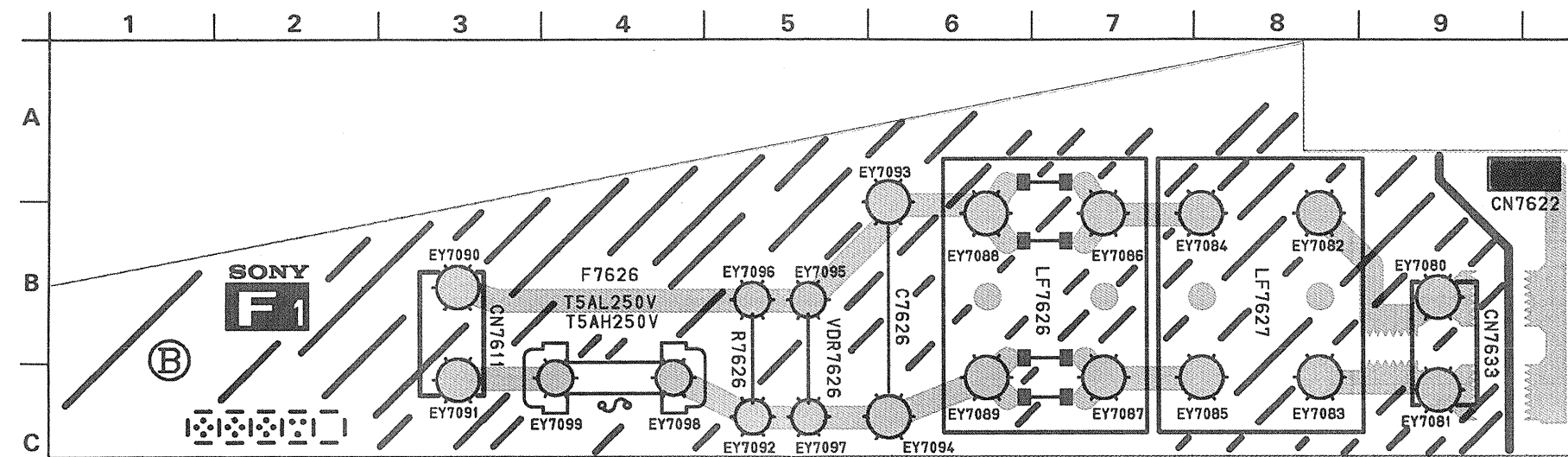


Waveforms D Board



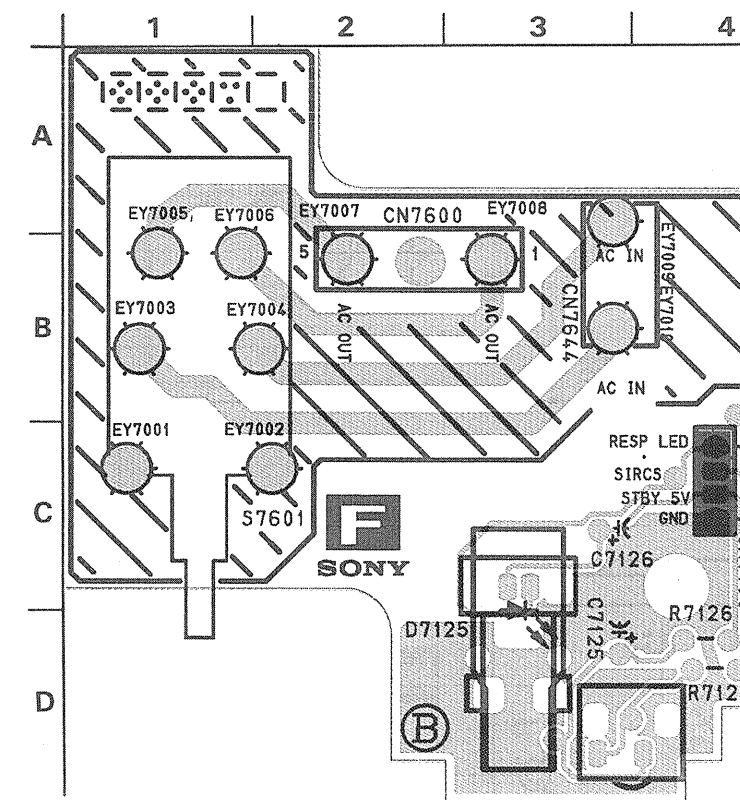
F1 [AC FILTER FUSE]

F1 Board



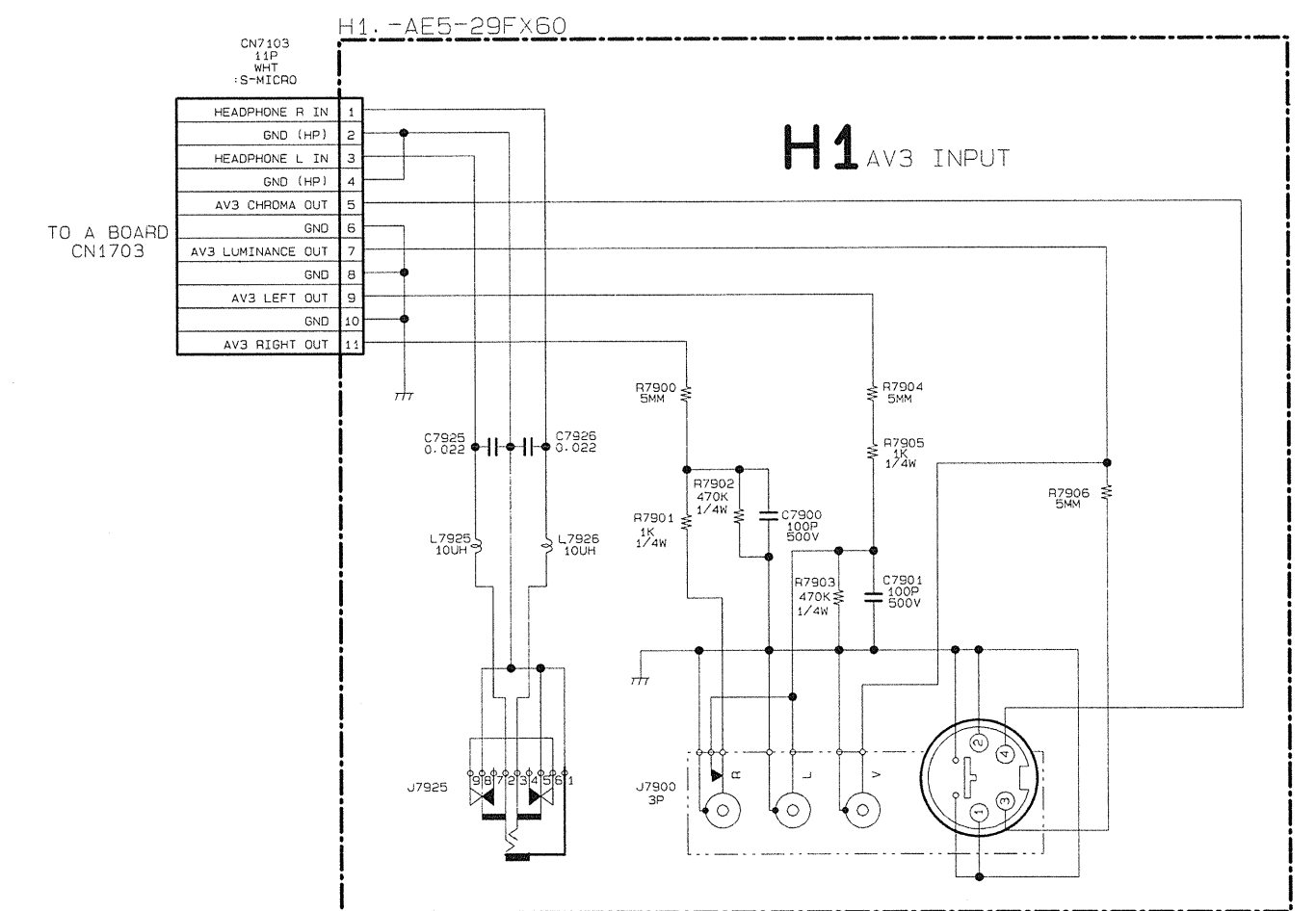
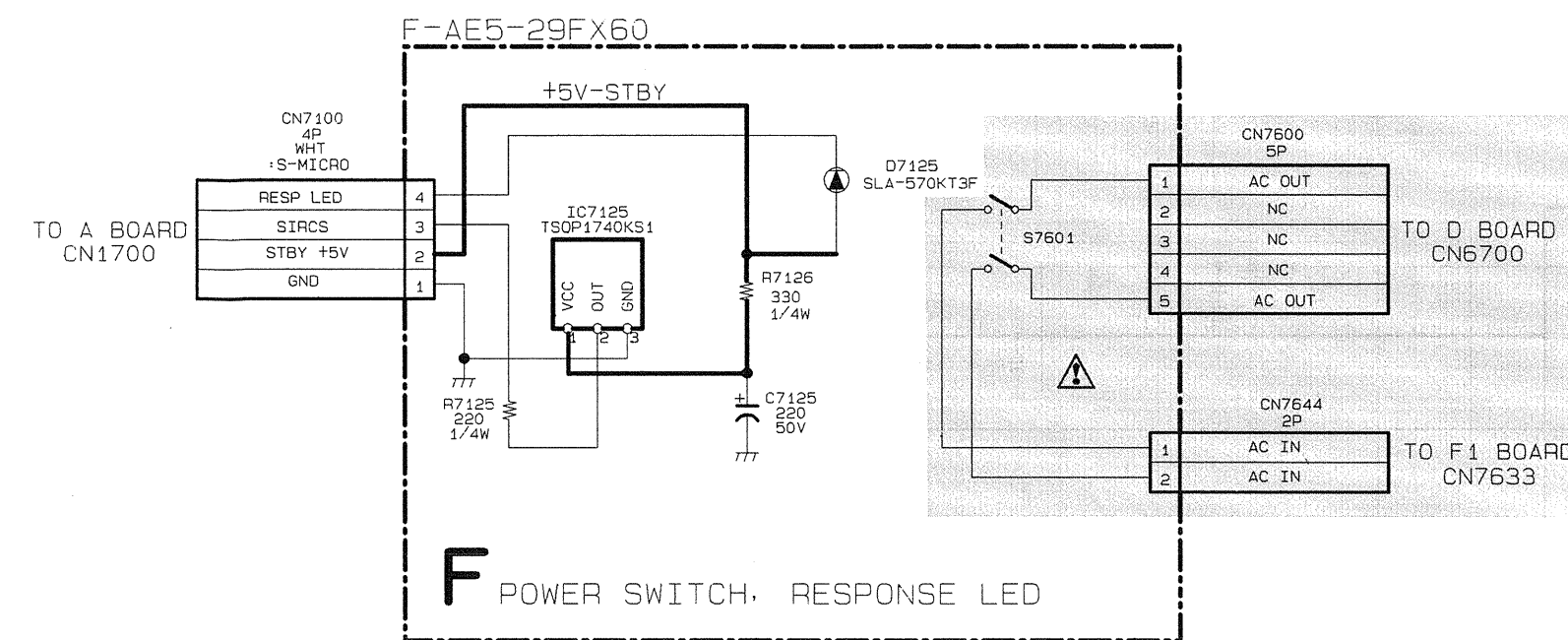
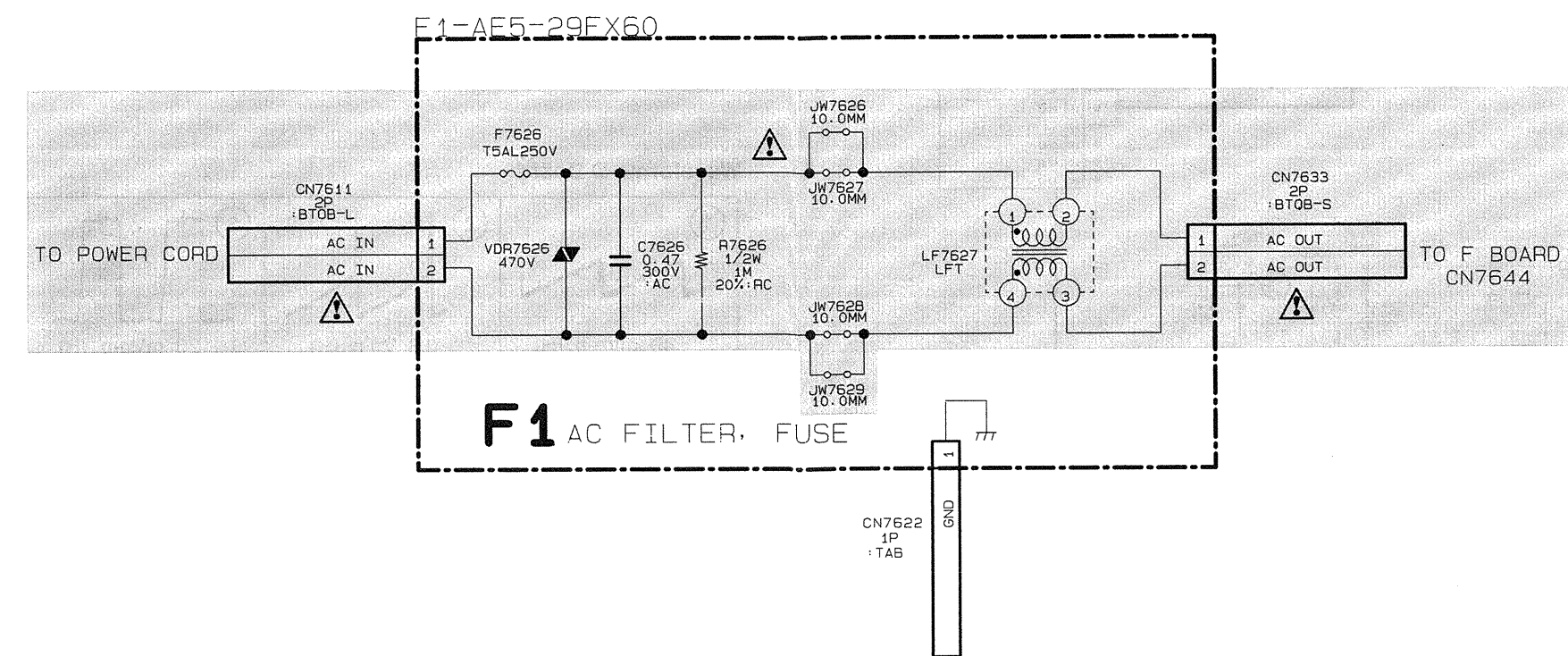
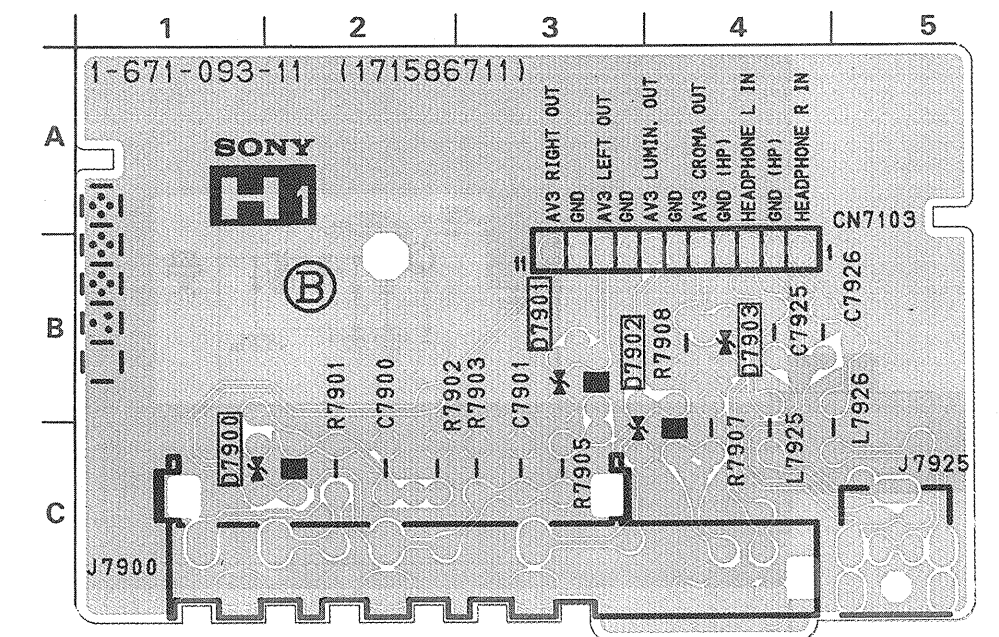
F [POWER SWITCH AND RESPONSE LED, IR Rx]

F Board

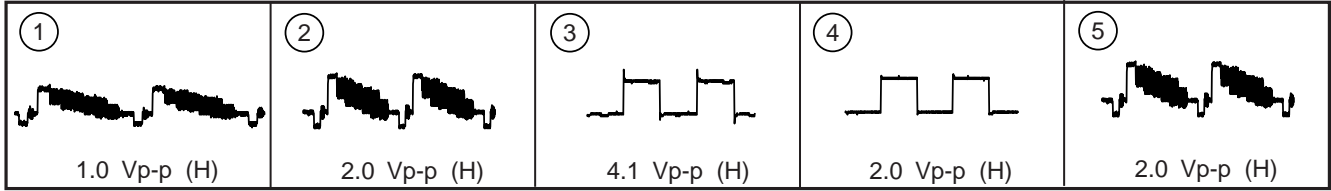


H1 [AV3 INPUT]

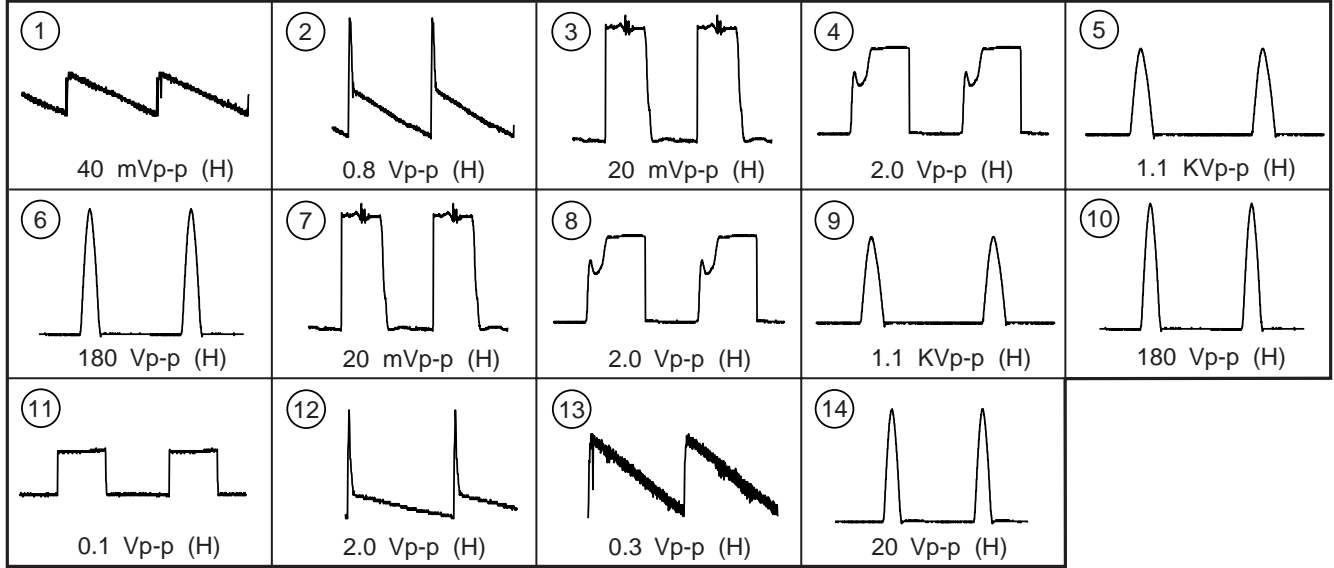
H1 Board



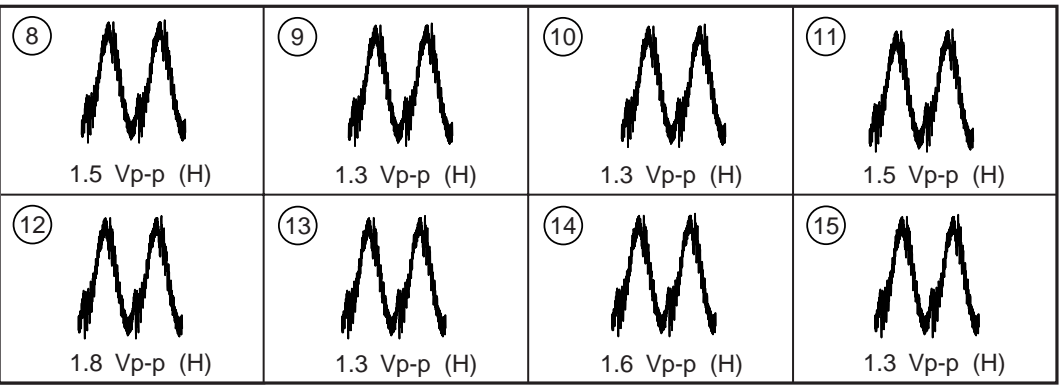
Waveforms A Board



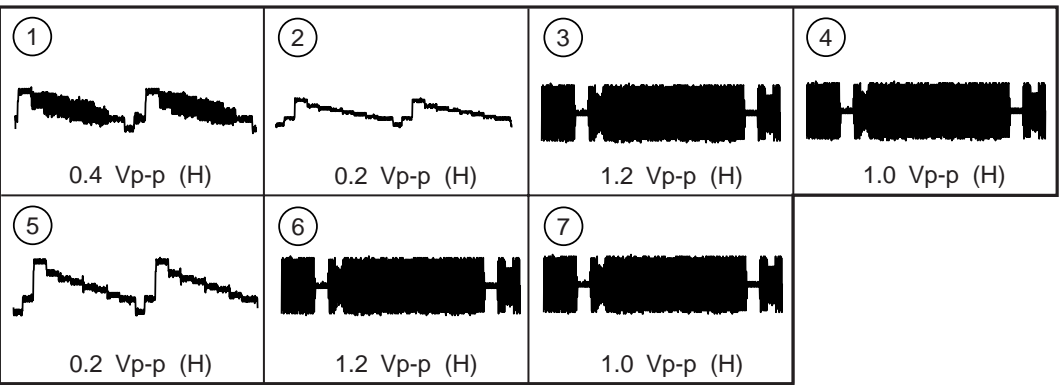
Waveforms D Board



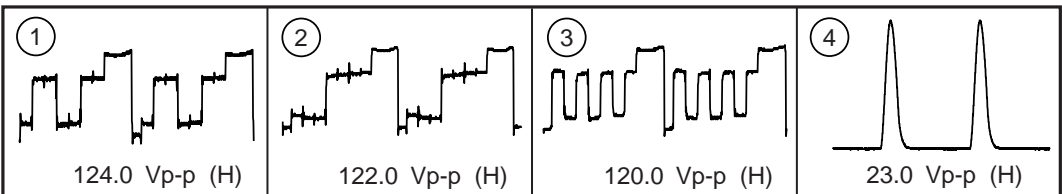
Waveforms J1(1/2) Board



Waveforms J1(2/2) Board

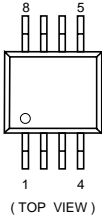


Waveforms C Board

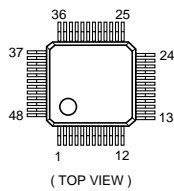


5-4 SEMICONDUCTORS

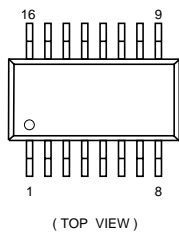
BA7046F
BA7046F-T1
LM393PS-E20
MB3793-42NF
MB3793-42NF-ER
NJM2240M
NJM2240M(TE2)
NJM3404AD



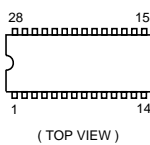
CXA1855Q-T6



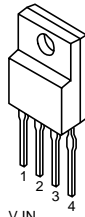
CXA1875AM-T4
HE4094BT
MC14052BDR2
MC74F157ADR2
SN74LS221D
74HCT4046AD/S470



CXD2053S
TDA4780/V3

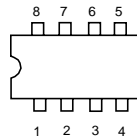


KA78R05TU
KA78R09TU
KA78R33TU

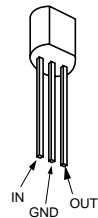


1 : V IN
2 : V OUT
3 : GND
4 : ON/OFF CONTROL

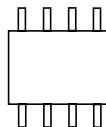
LM393D
M5216P
M24C32-BN6
ST24C16FB6
TDA2822M
UPC393C



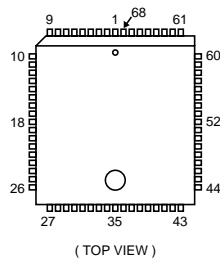
LM78L05ACZ
LM78L12ACZ
L78L05ACZ-AP
L78L12ACZ-AP



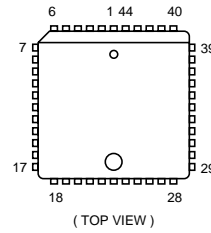
MB3793-42PNF-ER



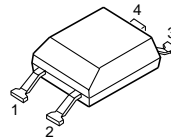
MSP3410D-QA-B4
SAA7185WP
SDA5273P-C134-GEG
SDA5275



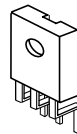
M27C800-100K1



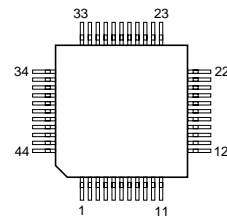
PC123F2
PC123FY2



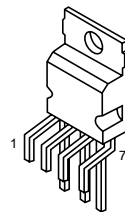
SBX1981-51



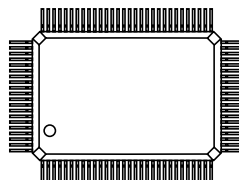
SDA9361



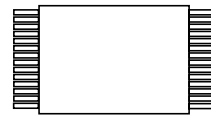
STV9379



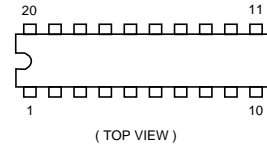
SAB-C161R1-LM



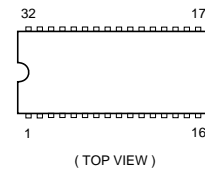
TC55257DFTL-70V-EL



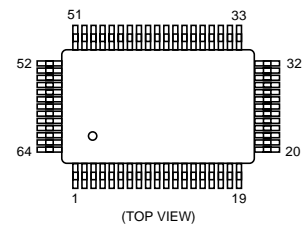
TDA7309D013TR



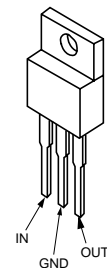
SDA9288X-B121
TDA9143/N2
TDA9144/N2
TDA9170T



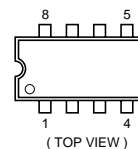
TDA9320H-N1-518



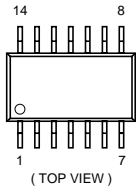
TEA6422DT
LM393N



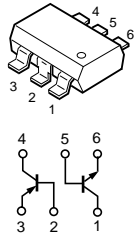
TOP209P



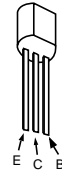
U2860B-BFPG3
74LVC08D



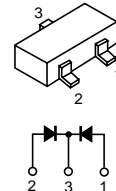
IMZ1A-T109



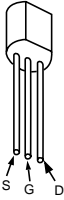
2SC2500-B
2SC2551-O
2SC2551O-TPE2



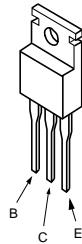
DAN202K
DAN202K-T-146



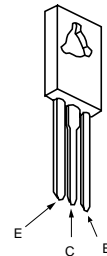
BC546B
BC556B



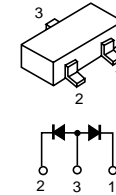
IRF614
IRF620



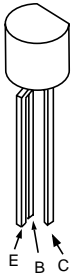
2SC2688-LK
2SC3840K



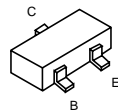
DAP202K
DAP202K-T-146



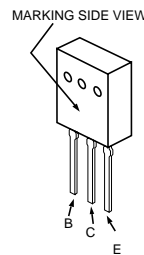
BF199
BF199-AMMO



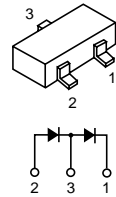
DTA144EK
DTA144EK-T146
DTC114EK
DTC114YKA-T146
DTC123EK
DTC123EK-T146
DTC124EKA-T146
DTC144EK
DTC144EK-T146
2SA1037K-T146-R
2SA1162-G
2SC2412K-QR
2SC2412K-T-146-R



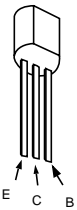
2SC3997CA



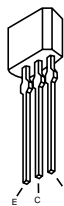
DA204K
DA204K-T-146



BF421-AMMO



DTA144ESA
DTA144ESA-TP
DTC114ESA-TP
DTC144ESA-TP
2SA1175-HFE
2SA733-K
2SA933AS-RT
2SA933AS-QRT
2SA933S-RT
2SC1740S-RT
2SC2785-HFE

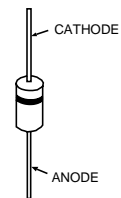


2SC4793

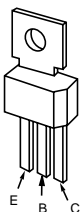


D1NL20-TA
D1NL20U-TR
D1N54-TR
EGP20G
EL1Z
GP08D
GP08DPKG23
R2K-V1

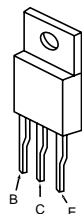
RGP02-20EG23
RGP10GPKG23
RGP15GPKG23
S2LA20F
1SS133T-77
1SS83
1SS83TD



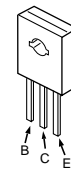
BF87-127



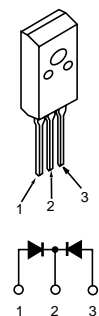
2SA1837



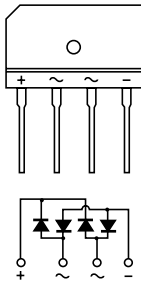
2SD2396H



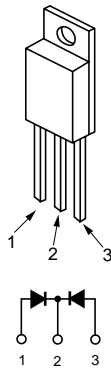
D10SC4M
D10SC6M



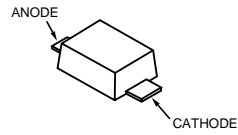
D4SB60L
D4SB60L-F
RBA-402L



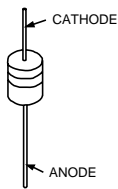
ESAC39M-06C
ESAC39M-06CF38



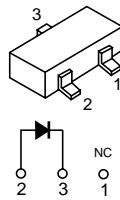
UF4005PKG23



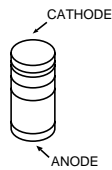
ERA38-06TP1	MTZJ-T-77-5.6B
ERA82-004TP1	MTZJ-T-77-6.8
GP08DPKG23	MTZJ-T-77-7.5B
MTZJ-T-77-12	MTZJ-T-77-9.1
MTZJ-T-77-15	MTZJ-33C
MTZJ-T-77-2.2B	RD5.6ESB2
MTZJ-T-77-22	RD9.1ESB2
MTZJ-T-77-33C	PGKE200AG23
MTZJ-T-77-3.6B	1SS119-25
MTZJ-T-77-4.7B	1SS119-25TD



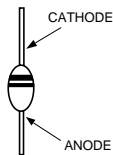
MA3033-L
MA3033L-TX
MA3056M-TX
MA3062M-TX
MA3030-H-(TX)



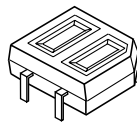
MA3051L-TX



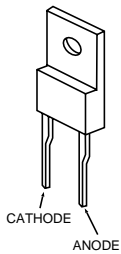
ERC04-06SE



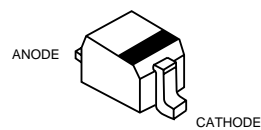
MA73-TX



ERD08M-15

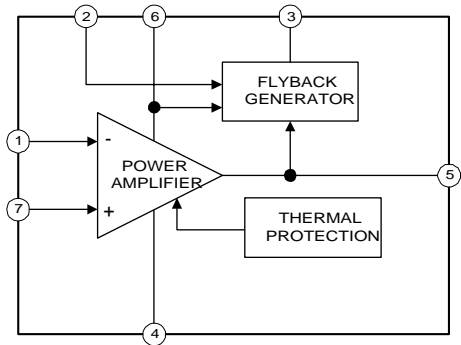


RD12SB2
UDZ-TE-17-6.2B
UDZ-TE-17-6.8B
UDZ-TE-12B

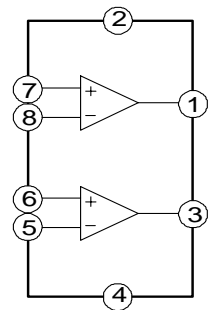


5-5. IC BLOCK DIAGRAMS

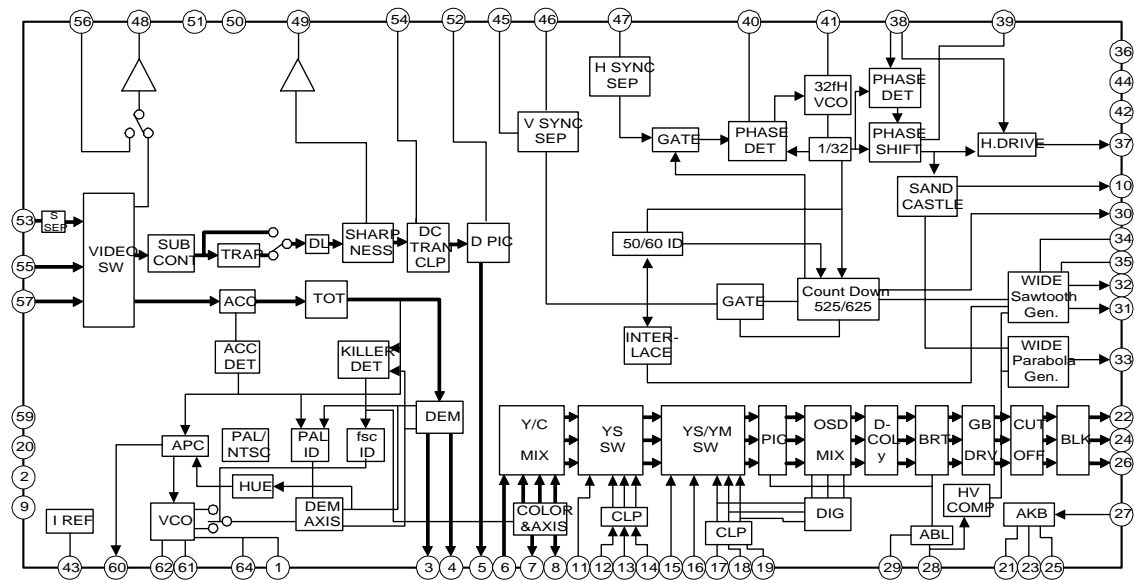
D BOARD IC6700 STV 9379



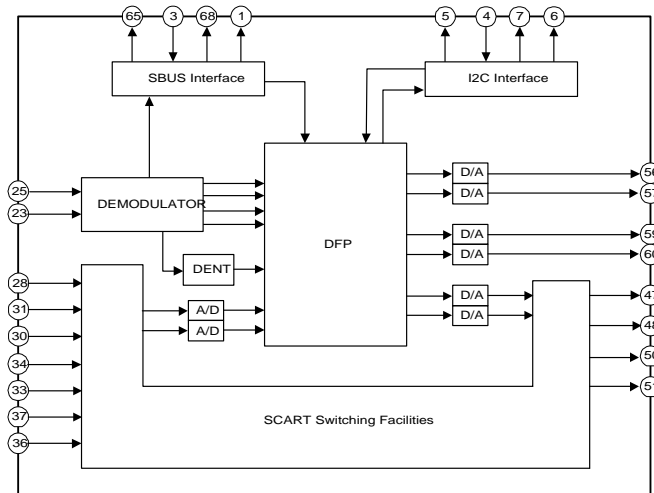
J BOARD IC8101 TDA2822M



E BOARD IC4301 CXA2100Q-TL



J BOARD IC8200 MSP3410D-QA-B4



SECTION 6 EXPLODED VIEWS

NOTE :

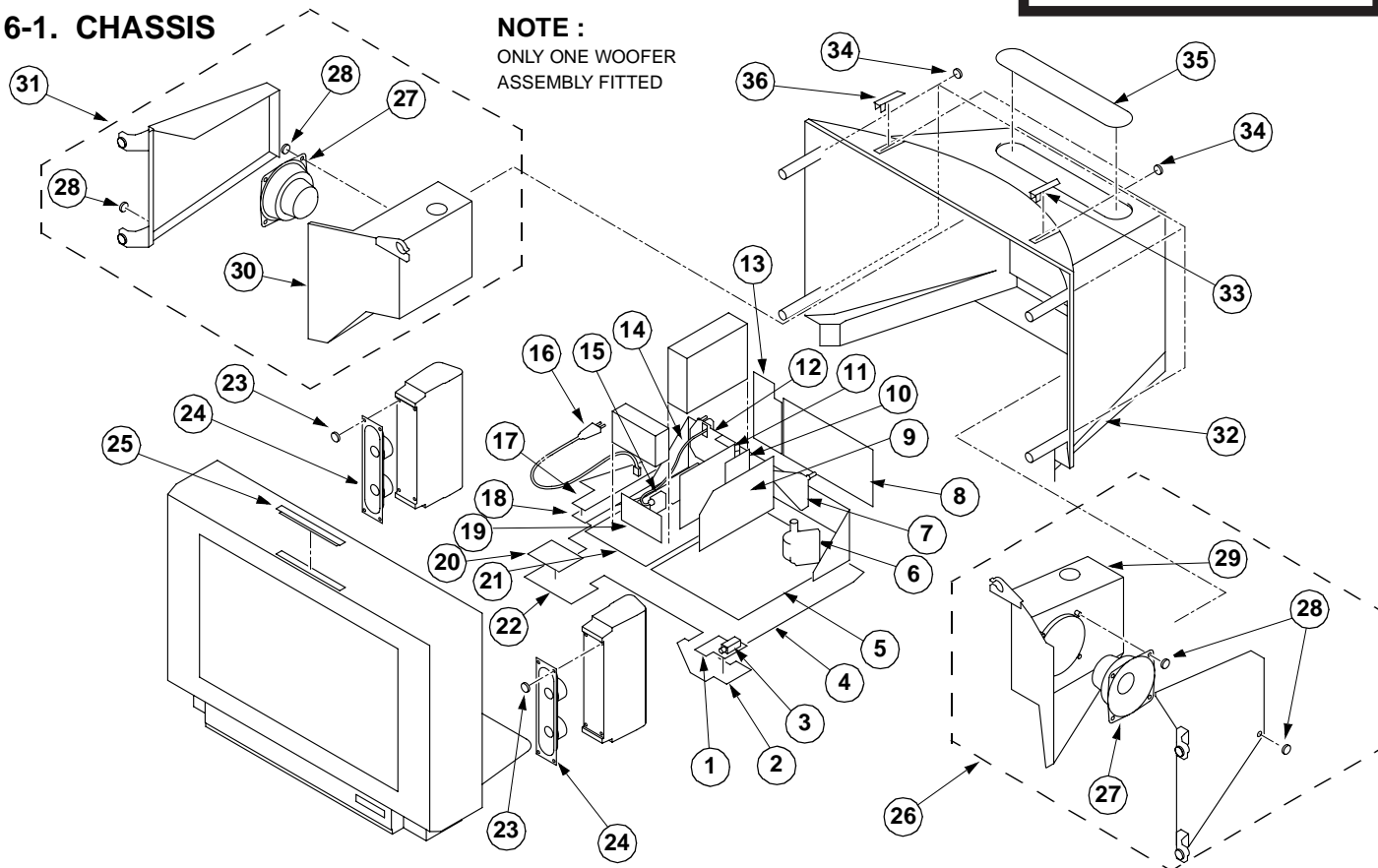
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked Δ are critical for safety. Replace only with the part number specified.

6-1. CHASSIS

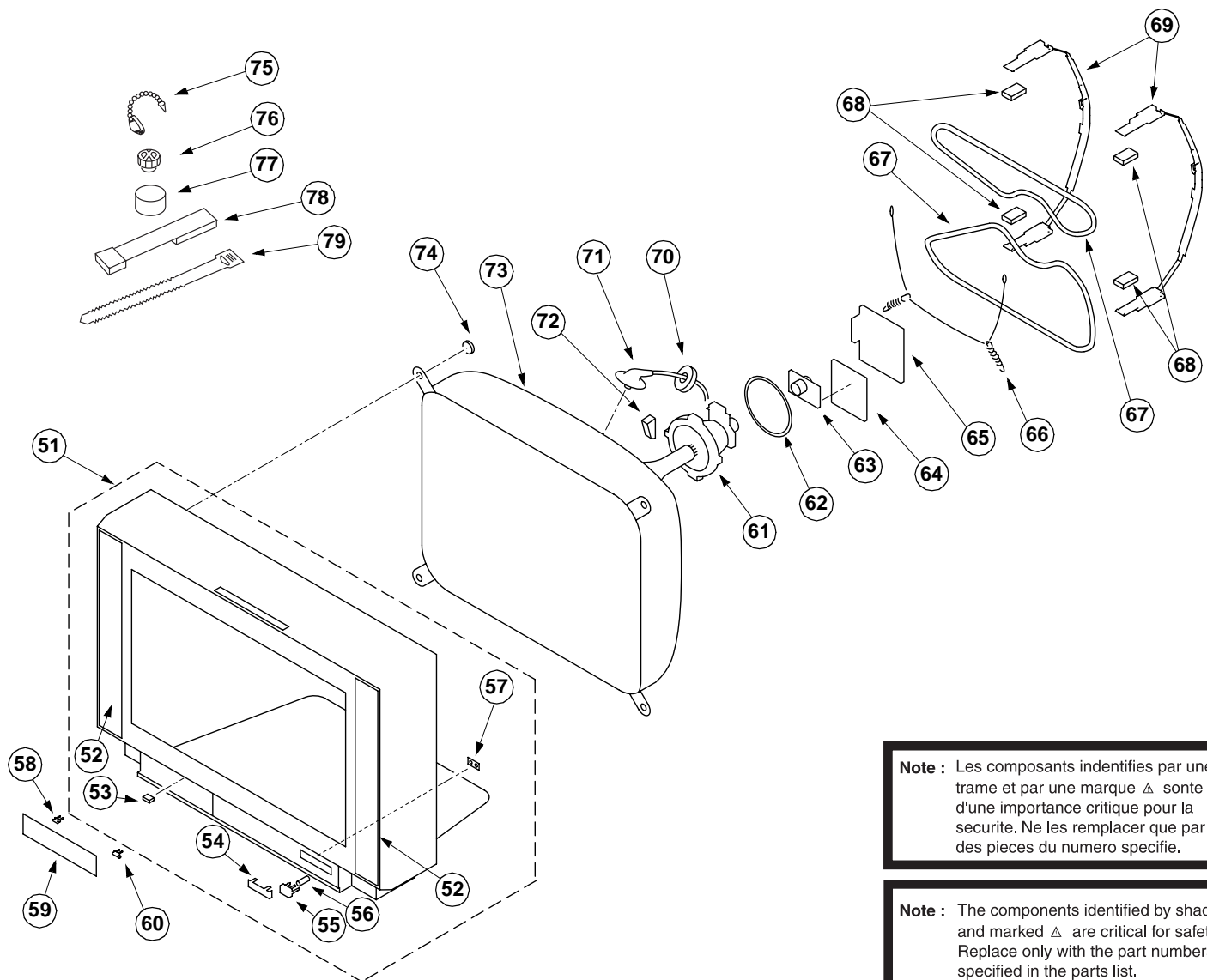
NOTE :

ONLY ONE WOOFER ASSEMBLY FITTED



REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
1	*A-1624-073-A	F BOARD, COMPLETE		17	*A-1624-074-A	F1 BOARD, COMPLETE	
2	*4-204-551-01	BRACKET, F		18	*4-204-552-01	BRACKET, F1	
3	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)		19	*A-1634-046-A	M BOARD, COMPLETE	
4	*1-204-549-01	BRACKET, MAIN		20	*A-1646-170-A	H1 BOARD, COMPLETE	
5	*A-1640-318-A	D BOARD (29"), COMPLETE		21	*A-1630-974-A	A BOARD, COMPLETE	
6	Δ 1-453-272-11	TRANSFORMER ASSY, FLYBACK (NX-4512/U2B4)				(KV-29FX60A/29FX60D/29FX60E)	
7	*4-204-476-01	BRACKET, J1			*A-1630-986-A	A BOARD, COMPLETE (KV-29FX60B)	
8	*A-1651-098-A	J BOARD, COMPLETE (KV-29FX60A/29FX60D/ 29FX60E/29FX60U)		22	*A-1630-987-A	A BOARD, COMPLETE (KV-29FX60U)	
	*A-1651-103-A	J BOARD, COMPLETE (KV-29FX60B)		23	*4-204-550-01	BRACKET, H	
9	*A-1640-320-A	D1 BOARD, COMPLETE		24	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
10	*A-1640-319-A	E BOARD, COMPLETE		25	1-529-153-11	SPEAKER (4.8X20CM)	
11	*A-1620-111-A	B2 BOARD, COMPLETE		26	0-553-509-00	SWITCH, ARRAY	
12	*4-204-477-01	BRACKET, J2		27	A-1678-188-A	WOOFER (R) ASSY	27-29
13	*A-1648-015-A	U BOARD, COMPLETE		28	1-529-144-11	SPEAKER (13CM)	
14	1-790-082-11	CABLE, RF		29	4-039-355-11	SCREW (4X12), (+) BV TAPPING	
15	1-693-338-11	TUNER/VIF (AEP)		30	*A-1678-158-A	WOOFER (R) ASSY, SP FX	
		(KV-29FX60A/29FX60D/29FX60E)		31	*A-1678-157-A	WOOFER (L) ASSY, SP FX	
	1-693-340-11	TUNER/VIF (FR) (KV-29FX60B)		32	A-1678-150-A	WOOFER (L) ASSY	27,28,30
	1-693-339-11	TUNER/VIF (UK) (KV-29FX60U)		33	4-204-508-01	COVER, REAR	
16	Δ 1-574-062-61	CORD, POWER (WITH CONNECTOR)		34	4-204-460-01	COVER, SCREW (LEFT)	
		(KV-29FX60A/29FX60B/29FX60D/29FX60E)		35	4-302-404-03	SCREW (WASHER HEAD) (+P 4X16)	
	Δ 1-590-762-21	CORD, POWER (WITH UK PLUG) (KV-29FX60U)		36	*4-204-458-01	COVER, PORT	
					4-039-461-01	COVER, SCREW (RIGHT)	

6-2. PICTURE TUBE



Note : Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART. NO	DESCRIPTION	REMARK
51	X-4200-423-1	BEZNET ASSY	52-57
52	4-204-473-01	GRILLE, SPEAKER	
53	4-042-192-01	CATCHER, PUSH	
54	4-204-492-01	WINDOW, ORNAMENTAL	
55	4-204-438-01	BUTTON, POWER	
56	4-202-964-11	SPRING	
57	4-204-439-01	GUIDE, LIGHT	
58	4-202-555-01	SHAFT, DOOR	
59	4-204-435-01	DOOR (KV-29FX60A/29FX60D)	
	4-204-435-11	DOOR (KV-29FX60B/29FX60E/29FX60U)	
60	4-045-250-01	DAMPER	
61	Δ 8-451-504-11	DEFLECTION YOKE Y29RSC-M	
62	1-452-896-11	COIL, NA ROTATION (RT200)	
63	Δ 8-453-011-11	NECK ASSY, NA299-M	
64	A-1644-094-A	VM BOARD, COMPLETE	

REF. NO.	PART. NO	DESCRIPTION	REMARK
65	A-1638-123-A	C BOARD, COMPLETE	
66	4-200-433-01	SPRING, EXTENSION	
67	Δ 1-416-654-11	COIL, DEMAGNETIC	
68	*4-202-988-01	CUSHION, BOX	
69	*4-060-802-01	HOLDER, DGC	
70	3-704-372-01	HOLDER, HV CABLE	
71	Δ 1-251-317-31	CAP ASSY, HIGH-VOLTAGE	
72	3-704-495-01	SPACER, DY	
73	Δ 8-735-053-05	PICTURE TUBE (M68LNH060X)	
74	4-036-188-01	SCREW, SELF TAPPING	
75	4-308-870-00	CLIP, LEAD WIRE	
76	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
77	4-425-032-00	MAGNET, DISK; 10MM	
78	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
79	3-701-007-00	BAND, BINDING	

SECTION 7 ELECTRICAL PARTS LIST

Note : Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

Note : The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

• Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

• All resistors are in ohms.
• F : nonflammable.

When indicating parts by reference number, please include the board name.

CAPACITORS
MF : mF, PF : mmF

COILS
MMH : mH, uH

B2

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
	A-1620-111-A	B2 BOARD, COMPLETE *****		C3356	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C3359	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C3361	1-126-964-11	ELECT 10MF	20% 50V
		< CAPACITOR >				< CONNECTOR >	
C3300	1-285-261-11	ELECT 100MF	20% 16V	CN3100	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
C3301	1-285-261-11	ELECT 100MF	20% 16V			< IC >	
C3302	1-126-933-11	ELECT 100MF	20% 16V				
C3307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC3300	8-759-991-41	IC L78L05ACZ-AP	
C3308	1-126-964-11	ELECT 10MF	20% 50V	IC3301	8-759-295-09	IC TLC2932IPW-E20	
				IC3302	8-759-546-03	IC SAA4977H-518	
C3309	1-126-964-11	ELECT 10MF	20% 50V	IC3303	8-759-439-63	IC SAA4945H/V1	
C3310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC3304	8-759-546-05	IC SAA4955TJ-V1-T3	
C3311	1-126-964-11	ELECT 10MF	20% 50V			< COIL >	
C3312	1-126-964-11	ELECT 10MF	20% 50V	L3302	1-412-029-11	INDUCTOR CHIP 10UH	
C3313	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	L3303	1-412-029-11	INDUCTOR CHIP 10UH	
				L3304	1-412-029-11	INDUCTOR CHIP 10UH	
C3314	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	L3305	1-412-029-11	INDUCTOR CHIP 10UH	
C3315	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	L3306	1-412-029-11	INDUCTOR CHIP 10UH	
C3316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C3317	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	L3307	1-412-029-11	INDUCTOR CHIP 10UH	
C3319	1-126-964-11	ELECT 10MF	20% 50V	L3313	1-412-029-11	INDUCTOR CHIP 10UH	
				L3314	1-412-029-11	INDUCTOR CHIP 10UH	
C3320	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V			< TRANSISTOR >	
C3321	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	Q3300	1-801-806-11	TRANSISTOR DTC144EKA-T146	
C3322	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V			< RESISTOR >	
C3323	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3302	1-216-025-91	RES,CHIP 100 5% 1/10W	
C3324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3303	1-216-025-91	RES,CHIP 100 5% 1/10W	
				R3304	1-216-295-91	SHORT 0	
C3325	1-126-964-11	ELECT 10MF	20% 50V	R3305	1-216-295-91	SHORT 0	
C3326	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3306	1-216-295-91	SHORT 0	
C3327	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C3328	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3307	1-216-295-91	SHORT 0	
C3329	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	R3308	1-216-049-91	RES, CHIP 1K 5% 1/10W	
				R3312	1-216-025-91	RES,CHIP 100 5% 1/10W	
C3330	1-126-964-11	ELECT 10MF	20% 50V	R3314	1-216-061-00	RES,CHIP 3.3K 5% 1/10W	
C3331	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	R3315	1-216-041-00	RES,CHIP 470 5% 1/10W	
C3333	1-126-964-11	ELECT 10MF	20% 50V				
C3341	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C3344	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C3351	1-126-964-11	ELECT 10MF	20% 50V				
C3353	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C3354	1-104-664-11	ELECT 47MF	20% 16V				
C3355	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				

REF.NO.	PART.NO	DESCRIPTION	REMARK
R3316	1-216-041-00	RES,CHIP	470 5% 1/10W
R3317	1-216-041-00	RES,CHIP	470 5% 1/10W
R3318	1-216-041-00	RES,CHIP	470 5% 1/10W
R3319	1-216-041-00	RES,CHIP	470 5% 1/10W
R3320	1-216-041-00	RES,CHIP	470 5% 1/10W
R3323	1-216-049-91	RES,CHIP	1K 5% 1/10W
R3324	1-216-071-00	RES,CHIP	8.2K 5% 1/10W
R3325	1-216-049-91	RES,CHIP	1K 5% 1/10W
R3331	1-216-047-91	RES,CHIP	820 5% 1/10W
R3332	1-216-047-91	RES,CHIP	820 5% 1/10W
R3336	1-216-033-00	RES,CHIP	220 5% 1/10W
R3337	1-216-089-91	RES,CHIP	47K 5% 1/10W
R3338	1-216-295-91	SHORT	0
R3339	1-216-295-91	SHORT	0
R3340	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
R3341	1-216-041-00	RES,CHIP	470 5% 1/10W
R3342	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
R3343	1-216-051-00	RES,CHIP	1.2K 5% 1/10W
R3344	1-216-295-91	SHORT	0
R3347	1-216-295-91	SHORT	0
R3348	1-216-021-00	RES,CHIP	68 5% 1/10W
R3362	1-216-295-91	SHORT	0
R3363	1-216-295-91	SHORT	0
R3364	1-216-295-91	SHORT	0
R3365	1-216-295-91	SHORT	0
R3369	1-216-295-91	SHORT	0
R3371	1-216-295-91	SHORT	0
R3376	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R3377	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R3378	1-216-295-91	SHORT	0
R3379	1-216-295-91	SHORT	0
R3380	1-216-295-91	SHORT	0
R3381	1-216-295-91	SHORT	0
R3382	1-216-295-91	SHORT	0
R3385	1-216-033-00	RES,CHIP	220 5% 1/10W

	A-1624-073-A	F BOARD, COMPLETE	*****
	4-203-258-11	HOLDER, LED	
	< CAPACITOR >		
C7125	1-126-969-11	ELECT	220MF 20% 50V
	< CONNECTOR >		
CN7100	*1-568-879-11	PIN, CONNECTOR 4P	
CN7600	△ *1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	
CN7644	△ *1-580-844-11	PIN, CONNECTOR (POWER)	

REF.NO.	PART.NO	DESCRIPTION	REMARK
	< DIODE >		
D7125	8-719-030-11	DIODE SLA-570KT3F	
	< IC >		
IC7125	8-749-014-59	IC TSOP1740KS1	
	< RESISTOR >		
R7125	1-247-815-91	CARBON	220 5% 1/4W
R7126	1-249-411-11	CARBON	330 5% 1/4W
	< SWITCH>		
S7601	△ 1-571-433-21	SWITCH, PUSH (AC POWER)	

	A-1624-074-A	F1 BOARD, COMPLETE	*****
	< CAPACITOR >		
C7626	△ 1-107-566-11	FILM	0.47MF 20% 300V
	< CONNECTOR >		
CN7611	△ *1-580-844-11	PIN, CONNECTOR (POWER)	
CN7622	1-695-915-11	TAB (CONTACT)	
CN7633	△ *1-580-843-11	PIN, CONNECTOR (POWER)	
	< FUSE >		
F7626	△ 1-532-299-00	FUSE 5A/250V	
	△ *1-533-725-11	HOLDER, FUSE (F7626)	
	< RESISTOR >		
R7626	△ 1-202-719-00	SOLID	1M 20% 1/2W
	< TRANSFORMER >		
LF7627	△ 1-433-488-11	TRANSFORMER, LINE FILTER	
	< VARISTOR >		
VDR762	△ 1-801-073-31	VARISTOR ERZV14D471	

	A-1630-974-A	A BOARD, COMPLETE (KV-29FX60A/29FX60D/29FX60E)	
	A-1630-986-A	A BOARD, COMPLETE (KV-29FX60B)	
	A-1630-987-A	A BOARD, COMPLETE (KV29FX60U)	
	4-382-854-11	SCREW (M3X10), P, SW (+)	
	4-931-401-01	HEAT SINK, V.OUT	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< CAPACITOR >				C1611	1-126-933-11	ELECT 100MF	20% 16V
C1100	1-104-664-11	ELECT 47MF	20% 25V	C1612	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1101	1-104-666-11	ELECT 220MF	20% 25V	C1613	1-126-933-11	ELECT 100MF	20% 16V
C1126	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	C1614	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1127	1-137-035-11	FILM 0.47MF	10% 100V	C1615	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1128	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	C1617	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C1129	1-130-777-00	FILM 0.1MF	5% 63V	< CONNECTOR >			
C1130	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	CN1111	*1-564-520-11	PLUG, CONNECTOR 5P	
C1131	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	CN1200	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1132	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	CN1401	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1133	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1600	1-900-903-64	CONNECTOR ASSY 20P	
C1134	1-126-961-11	ELECT 2.2MF	20% 50V	CN1601	1-900-903-64	CONNECTOR ASSY 20P	
C1135	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1602	1-900-903-64	CONNECTOR ASSY 20P	
C1136	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN1700	*1-568-879-11	PIN, CONNECTOR 4P	
C1137	1-126-953-81	ELECT 2200MF	20% 35V	CN1701	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
C1138	1-126-953-81	ELECT 2200MF	20% 35V	CN1702	*1-568-880-51	PIN, CONNECTOR 5P	
C1139	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	CN1703	*1-564-514-11	PLUG, CONNECTOR 11P	
C1140	1-111-216-91	ELECT 150MF	20% 63V	CN1801	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	
C1151	1-162-568-11	CERAMIC CHIP 0.33MF	10% 16V	CN1901	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
C1152	1-137-035-11	FILM 0.47MF	10% 100V	< DIODE >			
C1153	1-163-135-00	CERAMIC CHIP 560PF	5% 50V	D1100	8-719-914-43	DIODE DAN202K-T-146	
C1154	1-130-777-00	FILM 0.1MF	5% 63V	D1101	8-719-914-44	DIODE DAP202K-T-146	
C1155	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D1102	8-719-914-43	DIODE DAN202K-T-146	
C1156	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D1103	8-719-914-43	DIODE DAN202K-T-146	
C1157	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	D1401	8-719-105-99	DIODE UDZ-TE-17-6.2B	
C1158	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1402	8-719-105-99	DIODE UDZ-TE-17-6.2B	
C1159	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1403	8-719-105-99	DIODE UDZ-TE-17-6.2B	
C1160	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1404	8-719-105-99	DIODE UDZ-TE-17-6.2B	
C1161	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V	D1626	8-719-914-43	DIODE DAN202K-T-146	
C1162	1-111-216-91	ELECT 150MF	20% 63V	D1627	8-719-914-43	DIODE DAN202K-T-146	
C1177	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D1629	8-719-914-43	DIODE DAN202K-T-146	
C1178	1-126-964-11	ELECT 10MF	20% 50V	< FERRITE BEAD >			
C1179	1-126-964-11	ELECT 10MF	20% 50V	FB1126	1-535-030-00	LEAD, JUMPER (5.0MM)	
C1180	1-126-952-91	ELECT 1000MF	20% 35V	< IC >			
C1181	1-126-952-91	ELECT 1000MF	20% 35V	IC1126	8-759-544-25	IC TDA7482	
C1182	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1151	8-759-544-25	IC TDA7482	
C1183	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1176	8-759-333-24	IC LM1876TF	
C1184	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	IC1400	8-752-072-94	IC CXA1875AM-T4	
C1226	1-104-661-91	ELECT 330MF	20% 16V	IC1601	8-759-457-44	IC KA78R05TU	
C1326	1-163-059-91	CERAMIC CHIP 0.01MF	10% 50V	IC1602	8-759-457-44	IC KA78R05TU	
C1327	1-126-934-11	ELECT 220MF	20% 10V	IC1603	8-759-295-82	IC L78L08ACZ-AP	
C1328	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	IC1604	8-759-544-13	IC KA78R09TU	
C1601	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC1605	8-759-544-11	IC KA78R33TU	
C1602	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< COIL >			
C1603	1-126-933-11	ELECT 100MF	20% 16V	L1126	0-553-937-00	CHOKE COIL	
C1604	1-126-933-11	ELECT 100MF	20% 16V				
C1605	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1607	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1608	1-126-934-11	ELECT 220MF	20% 16V				
C1609	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1610	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
L1127	1-414-158-11	INDUCTOR	2.2UH	R1204	1-216-071-00	RES,CHIP	8.2K 5% 1/10W
L1128	1-414-158-11	INDUCTOR	2.2UH	R1205	1-216-089-91	RES,CHIP	47K 5% 1/10W
L1151	0-553-937-00	CHOKE COIL		R1206	1-216-073-00	RES,CHIP	10K 5% 1/10W
L1152	1-414-158-11	INDUCTOR	2.2UH	R1207	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
L1153	1-414-158-11	INDUCTOR	2.2UH	R1208	1-216-089-91	RES,CHIP	47K 5% 1/10W
L1326	1-414-183-41	INDUCTOR	10UH	R1209	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
< TRANSISTOR >				R1210	1-216-089-91	RES,CHIP	47K 5% 1/10W
Q1100	8-729-216-22	TRANSISTOR	2SA1037K-T-146-R	R1226	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1201	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1227	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1202	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1228	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1203	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1229	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1204	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1230	1-216-055-00	RES,CHIP	1.8K 5% 1/10W
Q1226	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1232	1-216-295-91	SHORT	0
Q1227	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1233	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q1229	8-729-027-38	TRANSISTOR	DTA144EKA-T146	R1326	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1326	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1327	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1327	8-729-216-22	TRANSISTOR	2SA1037K-T-146-R	R1328	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q1328	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1329	1-216-025-91	RES,CHIP	100 5% 1/10W
Q1329	8-729-216-22	TRANSISTOR	2SA1037K-T-146-R	R1330	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1400	8-729-046-47	TRANSISTOR	KSC2500-BTA	R1331	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1601	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1332	1-216-041-00	RES,CHIP	470 5% 1/10W
Q1626	8-729-620-06	TRANSISTOR	2SC2412K-T-146-R	R1333	1-216-075-00	RES,CHIP	12K 5% 1/10W
< RESISTOR >				R1334	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
R1001	1-216-295-91	SHORT	0	R1335	1-216-025-91	RES,CHIP	100 5% 1/10W
R1002	1-216-295-91	SHORT	0	R1336	1-216-041-00	RES,CHIP	470 5% 1/10W
R1003	1-216-295-91	SHORT	0	R1337	1-216-041-00	RES,CHIP	470 5% 1/10W
R1004	1-216-295-91	SHORT	0	R1338	1-216-001-00	RES,CHIP	10 5% 1/10W
R1005	1-216-295-91	SHORT	0	R1339	1-216-041-00	RES,CHIP	470 5% 1/10W
R1006	1-216-295-91	SHORT	0	R1340	1-216-043-91	RES,CHIP	560 5% 1/10W
R1100	1-216-025-91	RES,CHIP	100 5% 1/10W	R1342	1-216-073-91	RES,CHIP	10K 5% 1/10W
R1101	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R1400	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
R1102	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R1401	1-216-081-00	RES,CHIP	22K 5% 1/10W
R1126	1-216-631-11	METAL CHIP	150 0.50% 1/10W	R1403	1-216-295-91	SHORT	0
R1127	1-216-075-00	RES,CHIP	12K 5% 1/10W	R1404	1-216-295-91	SHORT	0
R1128	1-216-041-00	RES,CHIP	470 5% 1/10W	R1405	1-216-029-91	RES,CHIP	100 5% 1/10W
R1151	1-216-631-11	METAL CHIP	150 0.50% 1/10W	R1407	1-216-029-91	RES,CHIP	100 5% 1/10W
R1152	1-216-075-00	RES,CHIP	12K 5% 1/10W	R1408	1-216-029-91	RES,CHIP	100 5% 1/10W
R1153	1-216-041-00	RES,CHIP	470 5% 1/10W	R1409	1-216-029-91	RES,CHIP	100 5% 1/10W
R1176	1-216-063-91	RES,CHIP	3.9K 5% 1/10W	R1410	1-216-029-91	RES,CHIP	100 5% 1/10W
R1179	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R1601	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R1180	1-216-081-91	RES,CHIP	22K 5% 1/10W	R1602	1-216-691-11	METAL CHIP	47K 0.50% 1/10W
R1181	1-216-045-91	RES,CHIP	680 5% 1/10W	R1603	1-216-025-91	RES,CHIP	100 5% 1/10W
R1182	1-216-081-00	RES,CHIP	22K 5% 1/10W	R1605	1-216-049-91	RES,CHIP	1K 5% 1/10W
R1183	1-216-045-00	RES,CHIP	680 5% 1/10W	R1609	1-216-089-91	RES,CHIP	47K 5% 1/10W
R1184	1-216-089-91	RES,CHIP	47K 5% 1/10W	R1610	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R1185	1-216-089-91	RES,CHIP	47K 5% 1/10W	R1615	1-216-025-91	RES,CHIP	100 5% 1/10W
R1201	1-216-089-91	RES,CHIP	47K 5% 1/10W	R1616	1-216-304-11	RES,CHIP	3.3 5% 1/10W
R1202	1-216-083-00	RES,CHIP	27K 5% 1/10W	R1617	1-216-304-11	RES,CHIP	3.3 5% 1/10W
R1203	1-216-083-00	RES,CHIP	27K 5% 1/10W	R1618	1-216-295-91	SHORT	0
				R1621	1-216-027-00	RES,CHIP	120 5% 1/10W
				R1622	1-216-029-00	RES,CHIP	150 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R1623	1-216-033-00	RES,CHIP	220 5% 1/10W	C9512	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R1625	1-216-295-91	SHORT	0	C9513	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
< TUNER >				C9514	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
TU1326	1-693-338-11	TUNER/VIF (AEP)	(KV-29FX60A/29FX60D/29FX60E)	C9515	1-163-235-11	CERAMIC CHIP 22PF	5% 50V
	1-693-340-11	TUNER/VIF (FR)	(KV-29FX60B)	C9516	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
	1-693-339-11	TUNER/VIF (UK)	(KV-29FX60U)	C9517	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
*****				C9518	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
A-1634-046-A M BOARD, COMPLETE				C9519	1-126-964-11	ELECT 10MF	20% 50V
*****				C9520	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
< CAPACITOR >				< CONNECTOR >			
C9100	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	CN9101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
C9101	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	< DIODE >			
C9102	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D9100	8-719-988-62	DIODE 1SS355TE-17	
C9104	1-104-664-11	ELECT 47MF	20% 25V	D9101	8-719-988-62	DIODE 1SS355TE-17	
C9105	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D9102	8-719-988-62	DIODE 1SS355TE-17	
C9110	1-165-321-11	CERAMIC CHIP 0.68MF	10% 16V	D9103	8-719-988-62	DIODE 1SS355TE-17	
C9111	1-164-157-11	CERAMIC CHIP 0.068MF	10% 25V	D9104	8-719-056-83	DIODE UDZ-TE-17-6.8B	
C9112	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D9105	8-719-914-43	DIODE DAN202K-T-146	
C9113	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D9107	8-719-025-31	DIODE 02CZ5.6-TE85L	
C9114	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D9108	8-719-914-44	DIODE DAP202K-T-146	
C9115	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D9109	8-719-105-91	DIODE MA3056M-TX	
C9117	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D9110	8-719-914-43	DIODE DAN202KT-146	
C9118	1-104-664-11	ELECT 47MF	20% 25V	D9111	8-719-105-91	DIODE MA3056M-TX	
C9119	1-163-259-91	CERAMIC CHIP 220PF	5% 50V	< FILTER >			
C9121	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	FL9101	1-236-071-11	ENCAPSULATED COMPONENT	
C9122	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	FL9500	1-236-071-11	ENCAPSULATED COMPONENT	
C9123	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	FL9501	1-236-071-11	ENCAPSULATED COMPONENT	
C9124	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< IC >			
C9125	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC9100	8-759-988-13	IC LM393PS-E20	
C9126	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9104	8-759-259-18	IC MB3793-42PNF-ER	
C9127	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9105	8-759-544-30	IC SAB-C161R1-LM	
C9128	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9107	8-759-395-27	IC TC55257DFTL-70V-EL	
C9129	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9108	8-759-531-64	IC M24C32-BN6	
C9130	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9109	8-759-544-32	IC M27C800-100K1	
C9131	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	IC9110	8-759-559-96	IC HEF-4094BT	
C9132	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	IC9500	8-759-034-47	IC MC74F00M-T2	
C9400	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	IC9502	8-759-452-22	IC SDA5273P-C134-GEG	
C9500	1-104-664-11	ELECT 47MF	20% 25V	< COIL >			
C9502	1-104-664-11	ELECT 47MF	20% 25V	L9400	1-412-029-11	INDUCTOR CHIP 10UH	
C9503	1-126-964-11	ELECT 10MF	20% 50V	L9401	1-412-029-11	INDUCTOR CHIP 10UH	
C9504	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< TRANSISTOR >			
C9505	1-104-665-11	ELECT 100MF	20% 25V	Q9100	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
C9506	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	Q9101	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
C9507	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	Q9102	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
C9508	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	Q9103	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
C9509	1-163-251-11	CERAMIC CHIP 100PF	5% 50V				
C9510	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V				
C9511	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q9105	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R9161	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9106	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9162	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9107	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9164	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9108	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9166	1-216-073-00	RES,CHIP 10K 5%	1/10W
Q9109	8-729-027-46	TRANSISTOR DTC114YKA-T146		R9168	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9110	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R9169	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9500	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R9172	1-216-069-00	RES,CHIP 6.8K 5%	1/10W
Q9501	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R9173	1-216-295-91	SHORT 0	
Q9502	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R9174	1-216-025-91	RES,CHIP 100 5%	1/10W
Q9503	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9175	1-216-025-91	RES,CHIP 100 5%	1/10W
Q9504	1-801-806-11	TRANSISTOR DTC144EKA-T146		R9176	1-216-025-91	RES,CHIP 100 5%	1/10W
< RESISTOR >				R9177	1-216-025-91	RES,CHIP 100 5%	1/10W
R9100	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9178	1-216-025-91	RES,CHIP 100 5%	1/10W
R9101	1-216-033-00	RES,CHIP 220 5%	1/10W	R9184	1-216-025-91	RES,CHIP 100 5%	1/10W
R9102	1-216-033-00	RES,CHIP 220 5%	1/10W	R9185	1-216-025-91	RES,CHIP 100 5%	1/10W
R9103	1-216-025-91	RES,CHIP 100 5%	1/10W	R9186	1-216-025-91	RES,CHIP 100 5%	1/10W
R9104	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9187	1-216-065-91	RES,CHIP 4.7K 5%	1/10W
R9105	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9188	1-216-025-91	RES,CHIP 100 5%	1/10W
R9107	1-216-025-91	RES,CHIP 100 5%	1/10W	R9189	1-216-025-91	RES,CHIP 100 5%	1/10W
R9108	1-216-025-91	RES,CHIP 100 5%	1/10W	R9190	1-216-025-91	RES,CHIP 100 5%	1/10W
R9109	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9191	1-216-025-91	RES,CHIP 100 5%	1/10W
R9110	1-216-081-00	RES,CHIP 22K 5%	1/10W	R9192	1-216-025-91	RES,CHIP 100 5%	1/10W
R9111	1-216-025-91	RES,CHIP 100 5%	1/10W	R9193	1-216-097-91	RES,CHIP 100K 5%	1/10W
R9112	1-216-025-91	RES,CHIP 100 5%	1/10W	R9194	1-216-097-91	RES,CHIP 100K 5%	1/10W
R9113	1-216-033-00	RES,CHIP 220 5%	1/10W	R9195	1-216-097-91	RES,CHIP 100K 5%	1/10W
R9114	1-216-083-00	RES,CHIP 27K 5%	1/10W	R9196	1-216-073-00	RES,CHIP 10K 5%	1/10W
R9115	1-216-081-00	RES,CHIP 22K 5%	1/10W	R9197	1-216-073-00	RES,CHIP 10K 5%	1/10W
R9116	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9500	1-216-295-91	SHORT 0	
R9117	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9501	1-216-295-91	SHORT 0	
R9119	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9502	1-216-295-91	SHORT 0	
R9120	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9504	1-216-041-00	RES,CHIP 470 5%	1/10W
R9121	1-216-017-91	RES,CHIP 47 5%	1/10W	R9505	1-216-051-00	RES,CHIP 1.2K 5%	1/10W
R9122	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9506	1-216-073-00	RES,CHIP 10K 5%	1/10W
R9123	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9507	1-216-097-91	RES,CHIP 100K 5%	1/10W
R9127	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9508	1-216-017-91	RES,CHIP 47 5%	1/10W
R9138	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9509	1-216-049-91	RES,CHIP 1K 5%	1/10W
R9140	1-216-057-00	RES,CHIP 2.2K 5%	1/10W	R9510	1-216-017-91	RES,CHIP 47 5%	1/10W
R9141	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9511	1-216-049-91	RES,CHIP 1K 5%	1/10W
R9142	1-216-041-00	RES,CHIP 470 5%	1/10W	R9512	1-216-017-91	RES,CHIP 47 5%	1/10W
R9143	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9513	1-216-017-91	RES,CHIP 47 5%	1/10W
R9144	1-216-057-00	RES,CHIP 2.2K 5%	1/10W	R9514	1-216-017-91	RES,CHIP 47 5%	1/10W
R9145	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9515	1-216-295-91	SHORT 0	
R9146	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9516	1-216-295-91	SHORT 0	
R9147	1-216-049-91	RES,CHIP 1K 5%	1/10W	R9517	1-216-295-91	SHORT 0	
R9148	1-216-073-00	RES,CHIP 10K 5%	1/10W	R9518	1-216-049-91	RES,CHIP 1K 5%	1/10W
R9149	1-216-025-91	RES,CHIP 100 5%	1/10W	R9519	1-216-039-00	RES,CHIP 390 5%	1/10W
R9150	1-216-025-91	RES,CHIP 100 5%	1/10W	R9520	1-216-039-00	RES,CHIP 390 5%	1/10W
R9151	1-216-025-91	RES,CHIP 100 5%	1/10W	R9521	1-216-039-00	RES,CHIP 390 5%	1/10W
R9153	1-216-025-91	RES,CHIP 100 5%	1/10W	R9522	1-216-295-91	SHORT 0	
R9159	1-216-069-00	RES,CHIP 6.8K 5%	1/10W	R9523	1-216-295-91	SHORT 0	
				R9524	1-216-295-91	SHORT 0	

The components identified by shading and marked Δ are critical for safety
Replace only with the part number specified.

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C

REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK			
R9525	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	< DIODE >						
R9526	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	D5300	8-719-921-20	DIODE	1SS119-25TD			
R9527	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	D5302	8-719-989-09	DIODE	1SS83TA			
R9528	1-216-025-91	RES,CHIP	100	5%	1/10W	D5325	8-719-921-20	DIODE	1SS119-25TD			
R9529	1-216-025-91	RES,CHIP	100	5%	1/10W	D5326	8-719-923-58	DIODE	MTZJ-T-77-9.1			
R9530	1-216-025-91	RES,CHIP	100	5%	1/10W	D5327	8-719-989-09	DIODE	1SS83TA			
R9531	1-216-295-91	SHORT	0			D5350	8-719-921-20	DIODE	1SS119-25TD			
R9532	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	D5351	8-719-991-33	DIODE	1SS133T-77			
< CRYSTAL >						D5353	8-719-989-09	DIODE	1SS83TA			
X9101	1-781-107-21	RESONATOR				D5375	8-719-991-33	DIODE	1SS133T-77			
X9500	1-760-551-21	VIBRATOR, CERAMIC				D5376	8-719-991-33	DIODE	1SS133T-77			
*****						D5377	8-719-936-83	DIODE	GP08DPKG23			
A-1638-123-A C BOARD, COMPLETE						D5378	8-719-923-84	DIODE	MTZJ-T-77-13B			
*****						D5379	8-719-982-96	DIODE	MTZJ-T-77-2.2A			
1-671-108-11 PWB, C IC						D5380	8-719-982-96	DIODE	MTZJ-T-77-2.2A			
4-382-854-11 SCREW (M3X10), P, SW (+)						D5381	8-719-031-34	DIODE	RG02-20EG23			
< CAPACITOR >						< IC >						
C5301	1-102-129-91	CERAMIC	0.01MF	10%	50V	IC5300	8-759-360-83	IC	TDA6111Q/N4			
C5302	1-128-525-91	ELECT	470MF	20%	16V	IC5325	8-759-360-83	IC	TDA6111Q/N4			
C5304	1-107-657-91	ELECT	1MF	20%	350V	IC5350	8-759-360-83	IC	TDA6111Q/N4			
C5305	1-137-052-91	FILM	0.047MF	10%	400V	< SOCKET >						
C5306	1-102-157-91	CERAMIC	560PF	10%	500V	J5375	△	1-540-071-22	SOCKET, CRT			
< COIL >						< TRANSISTOR >						
C5325	1-102-959-91	CERAMIC	22PF	5%	50V	L5300	1-408-599-41	INDUCTOR	4.7UH			
C5326	1-102-157-91	CERAMIC	560PF	10%	500V	L5325	1-408-599-41	INDUCTOR	4.7UH			
C5327	1-102-129-91	CERAMIC	0.01MF	10%	50V	L5350	1-408-599-41	INDUCTOR	4.7UH			
C5328	1-128-525-91	ELECT	470MF	20%	16V	L5375	1-410-671-41	INDUCTOR	47UH			
C5329	1-107-657-91	ELECT	1MF	20%	350V	L5376	1-412-525-41	INDUCTOR	10UH			
C5330	1-137-052-91	FILM	0.047MF	10%	400V	L5377	1-414-183-11	INDUCTOR	10UH			
C5350	1-107-907-91	ELECT	22MF	20%	50V	< TRANSISTOR >						
C5352	1-102-157-91	CERAMIC	560PF	10%	500V	Q5300	8-729-204-98	TRANSISTOR	2SC25510-TPE2			
C5353	1-102-129-91	CERAMIC	0.01MF	10%	50V	Q5325	8-729-204-98	TRANSISTOR	2SC25510-TPE2			
C5354	1-128-525-91	ELECT	470MF	20%	16V	Q5350	8-729-029-57	TRANSISTOR	DTA144ESA-TP			
C5355	1-107-657-91	ELECT	1MF	20%	350V	Q5351	8-729-204-98	TRANSISTOR	2SC25510-TPE2			
C5356	1-137-052-91	FILM	0.047MF	10%	400V	Q5375	8-729-900-95	TRANSISTOR	2SC1740S-RT			
C5375	1-107-902-91	ELECT	1MF	20%	50V	Q5376	8-729-026-40	TRANSISTOR	2SA933AS-RT			
C5377	1-162-115-91	CERAMIC	330PF	10%	2KV	< RESISTOR >						
C5378	1-162-116-91	CERAMIC	680PF	10%	2KV	R5300	1-247-831-91	CARBON	1K	5%	1/4W	
C5379	1-162-116-91	CERAMIC	680PF	10%	2KV	R5301	1-247-827-91	CARBON	680	5%	1/4W	
C5380	1-107-652-91	ELECT	10MF	20%	250V	R5302	1-247-813-91	CARBON	180	5%	1/4W	
C5381	1-162-116-91	CERAMIC	680PF	10%	2KV	R5303	1-247-831-91	CARBON	1K	5%	1/4W	
C5382	1-162-114-71	CERAMIC	0.0047MF		2KV	R5304	1-202-565-81	SOLID	470	20%	1/2W	
< CONNECTOR >						R5305	1-215-926-51	METAL OXIDE	33K	5%	3W F	
CN5400	1-564-511-11	PLUG, CONNECTOR 8P				R5306	1-247-845-91	CARBON	3.9K	5%	1/4W	
CN5511	1-695-915-21	TAB (CONTACT)				R5307	1-247-863-91	CARBON	22K	5%	1/4W	
CN5522	1-695-915-21	TAB (CONTACT)										
CN5600	1-508-766-12	PIN, CONNECTOR (5MM PITCH) 4P										



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REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R5325	1-247-831-91	CARBON	1K 5% 1/4W	C6605	Δ 1-119-888-51	CERAMIC 2200PF 20% 250V	
R5326	1-247-827-91	CARBON	680 5% 1/4W	C6606	Δ 1-119-888-51	CERAMIC 2200PF 20% 250V	
R5327	1-247-813-91	CARBON	180 5% 1/4W	C6608	Δ 1-161-964-91	CERAMIC 0.0047MF 250V	
R5328	1-247-831-91	CARBON	1K 5% 1/4W	C6609	Δ 1-161-964-91	CERAMIC 0.0047MF 250V	
R5329	1-202-565-81	SOLID	470 20% 1/2W	C6610	1-162-599-12	CERAMIC 0.0047MF 250V	
R5330	1-215-926-51	METAL OXIDE	33K 5% 3W F	C6611	1-162-599-12	CERAMIC 0.0047MF 250V	
R5331	1-247-845-91	CARBON	3.9K 5% 1/4W	C6612	1-161-744-00	CERAMIC 0.01MF 400V	
R5332	1-247-863-91	CARBON	22K 5% 1/4W	C6616	1-164-625-11	CERAMIC 680PF 10% 500V	
R5350	1-247-831-91	CARBON	1K 5% 1/4W	C6617	1-164-625-11	CERAMIC 680PF 10% 500V	
R5351	1-247-827-91	CARBON	680 5% 1/4W	C6618	1-136-175-00	FILM 0.68MF 5% 50V	
R5352	1-247-829-91	CARBON	820 5% 1/4W	C6619	1-136-173-00	FILM 0.47MF 5% 50V	
R5353	1-247-839-91	CARBON	2.2K 5% 1/4W	C6620	1-136-618-11	FILM 0.047MF 5% 1.25KV	
R5354	1-247-833-91	CARBON	1.2K 5% 1/4W	C6621	1-136-175-00	FILM 0.68MF 5% 50V	
R5355	1-247-813-91	CARBON	180 5% 1/4W	C6622	1-164-625-11	CERAMIC 680PF 10% 500V	
R5356	1-249-831-91	CARBON	1K 5% 1/4W	C6623	1-136-173-00	FILM 0.47MF 5% 50V	
R5357	1-202-565-81	SOLID	470 20% 1/2W	C6624	1-126-968-11	ELECT 100MF 20% 50V	
R5358	1-215-926-51	METAL OXIDE	33K 5% 3W F	C6626	1-164-625-11	CERAMIC 680PF 10% 500V	
R5359	1-247-863-91	CARBON	22K 5% 1/4W	C6627	1-164-625-11	CERAMIC 680PF 10% 500V	
R5360	1-247-845-91	CARBON	3.9K 5% 1/4W	C6628	1-126-936-11	ELECT 3300MF 20% 16V	
R5361	1-247-847-91	CARBON	4.7K 5% 1/4W	C6629	1-128-548-11	ELECT 4700MF 20% 25V	
R5375	1-247-867-91	CARBON	33K 5% 1/4W	C6630	1-110-626-11	ELECT 330MF 20% 160V	
R5376	1-247-855-91	CARBON	10K 5% 1/4W	C6631	1-128-548-11	ELECT 4700MF 20% 25V	
R5377	1-247-857-91	CARBON	12K 5% 1/4W	C6632	1-128-548-11	ELECT 4700MF 20% 25V	
R5378	1-247-855-91	CARBON	10K 5% 1/4W	C6633	1-126-935-11	ELECT 470MF 20% 16V	
R5379	1-247-873-91	CARBON	56K 5% 1/4W	C6634	1-136-165-00	FILM 0.1MF 5% 50V	
R5381	1-247-837-91	CARBON	1.8K 5% 1/4W	C6635	1-104-664-11	ELECT 47MF 20% 25V	
R5382	1-202-549-81	SOLID	100 20% 1/2W	C6636	1-102-129-00	CERAMIC 0.01MF 10% 50V	
R5383	1-216-392-51	METAL OXIDE	1.8 5% 3W F	C6637	1-102-129-00	CERAMIC 0.01MF 10% 50V	
R5384	1-216-392-51	METAL OXIDE	1.8 5% 3W F	C6638	1-137-368-11	FILM 0.0047MF 5% 50V	
R5385	1-202-549-81	SOLID	100 20% 1/2W	C6639	1-102-228-00	CERAMIC 470PF 10% 500V	
R5386	1-202-884-91	SOLID	820K 20% 1/2W	C6641	1-126-967-11	ELECT 47MF 20% 50V	
R5387	1-202-884-91	SOLID	820K 20% 1/2W	C6642	1-126-964-11	ELECT 10MF 20% 50V	
R5388	1-215-911-51	METAL OXIDE	100 5% 3W F	C6647	1-104-664-11	ELECT 47MF 20% 25V	
R5389	1-249-417-91	CARBON	1K 5% 1/4W F	C6649	1-126-965-11	ELECT 22MF 20% 50V	
< VARIABLE RESISTOR >				C6651	1-162-599-12	CERAMIC 0.0047MF 250V	
RV5375	1-241-656-21	RES, ADJ, METAL FILM 110M		C6652	1-107-679-91	ELECT 10MF 20% 450V	
RV5376	1-230-641-21	RES, ADJ, METAL GLAZE 2.2M		C6653	1-126-968-11	ELECT 100MF 20% 50V	
*****				C6654	1-162-117-00	CERAMIC 100PF 10% 500V	
A-1640-318-A D BOARD, COMPLETE				C6655	1-109-879-11	CERAMIC 22PF 5% 2KV	
*****				C6656	1-126-967-11	ELECT 47MF 20% 50V	
4-201-023-01 SPACER, INSULATING				C6657	1-126-941-11	ELECT 470MF 20% 25V	
4-202-373-01 SPRING, IC				C6658	1-104-665-11	ELECT 100MF 20% 25V	
4-382-854-11 SCREW (M3X10), P, SW (+)				C6659	1-104-665-11	ELECT 100MF 20% 25V	
4-931-401-01 HEAT SINK, V.OUT				C6661	1-117-753-11	ELECT (BLOCK) 470MF 20% 450V	
< CAPACITOR >				C6662	1-136-165-00	FILM 0.1MF 5% 50V	
C6600	Δ 1-162-580-51	CERAMIC	0.01MF 400V	C6664	1-136-153-00	FILM 0.01MF 5% 50V	
C6603	Δ 1-126-933-11	ELECT	100MF 20% 16V	C6665	1-136-165-00	FILM 0.1MF 5% 50V	
C6604	Δ 1-126-767-11	ELECT	1000MF 20% 16V	C6666	1-136-165-00	FILM 0.1MF 5% 50V	
				C6667	1-126-933-11	ELECT 100MF 20% 16V	
				C6668	1-126-933-11	ELECT 100MF 20% 16V	
				C6669	1-136-165-00	FILM 0.1MF 5% 50V	

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REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
C6670	1-136-165-00	FILM	0.1MF	5%	50V	C6840	1-137-370-91	FILM	0.01MF	5%	50V
C6671	1-104-664-11	ELECT	47MF	20%	16V	C6841	1-104-660-91	ELECT	47MF	20%	16V
C6672	1-104-664-11	ELECT	47MF	20%	16V	C6842	1-136-207-11	FILM	0.047MF	10%	400V
C6673	1-104-664-11	ELECT	47MF	20%	16V	C6843	1-131-347-00	TANTALUM	1MF	10%	25V
C6677	1-136-165-00	FILM	0.1MF	5%	50V	C6851	1-162-131-11	CERAMIC	220PF	10%	2KV
C6679	1-130-495-00	FILM	0.1MF	5%	50V	C6852	1-162-129-00	CERAMIC	150PF	10%	2KV
C6680	1-137-370-11	FILM	0.01MF	5%	50V	C6853	1-137-536-11	FILM	0.0022MF	5%	630V
C6681	1-126-964-11	ELECT	10MF	20%	50V	C6855	1-136-205-11	FILM	0.022MF	10%	400V
C6682	1-535-143-61	LEAD JUMPER (5.0MM)				C6856	1-102-030-00	CERAMIC	330PF	10%	500V
C6700	1-102-129-00	CERAMIC	0.01MF	10%	50V	C6857	1-130-785-11	FILM	0.47MF	10%	100V
C6703	1-128-527-11	ELECT	330MF	20%	25V	C6861	1-137-364-11	FILM	0.001MF	5%	50V
C6704	1-126-968-11	ELECT	100MF	20%	50V	C6862	1-137-364-11	FILM	0.001MF	5%	50V
C6705	1-128-527-11	ELECT	330MF	20%	25V	C6863	1-162-134-11	CERAMIC	470PF	10%	2KV
C6706	1-106-228-00	MYLAR	0.22MF	10%	100V	< CONNECTOR >					
C6707	1-129-702-00	FILM	0.001MF	10%	400V	CN6100	0-553-995-00	20PIN CONNECTOR			
C6708	1-106-220-00	MYLAR	0.1MF	10%	100V	CN6101	0-553-995-00	20PIN CONNECTOR			
C6709	1-102-129-00	CERAMIC	0.01MF	10%	50V	CN6102	0-553-995-00	20PIN CONNECTOR			
C6710	1-130-785-11	MYLAR	0.47MF	10%	100V	CN6500	1-508-766-00	PIN, CONNECTOR (5MM PITCH) 4P			
C6727	1-102-228-00	CERAMIC	470PF	10%	500V	CN6600	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P			
C6801	1-104-664-11	ELECT	47MF	20%	25V	CN6611	*1-785-270-11	PIN, DY CONNECTOR (PC BOARD)			
C6802	1-126-960-11	ELECT	1MF	20%	50V	CN6620	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			
C6803	1-126-960-11	ELECT	1MF	20%	50V	CN6655	1-695-915-11	TAB (CONTACT)			
C6804	1-102-114-00	CERAMIC	470PF	10%	50V	CN6666	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
C6805	1-102-114-00	CERAMIC	470PF	10%	50V	CN6677	1-695-915-21	TAB (CONTACT)			
C6808	1-102-030-00	CERAMIC	330PF	10%	500V	CN6688	1-695-915-21	TAB (CONTACT)			
C6809	1-102-030-00	CERAMIC	330PF	10%	500V	CN6700	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P			
C6810	1-107-368-11	FILM	0.047MF	10%	200V	< DIODE >					
C6811	1-107-368-11	FILM	0.047MF	10%	200V	D6600	8-719-911-19	DIODE 1SS119-25TD			
C6812	1-162-131-11	CERAMIC	220PF	10%	2KV	D6601	8-719-510-64	DIODE DINL20U-TR			
C6813	1-162-558-51	CERAMIC	100PF	10%	2KV	D6602	8-719-109-89	DIODE MTZJ-T-77-5.6B			
C6814	1-117-640-11	FILM	6800PF	3%	1.2KV	D6603	8-719-911-19	DIODE 1SS119-25TD			
C6815	1-117-835-11	FILM	6200PF	3%	2KV	D6604	8-719-510-53	DIODE D4SB60L-F			
C6816	1-137-364-11	FILM	0.001MF	5%	50V	D6610	8-719-510-64	DIODE S2LA20F			
C6817	1-125-893-11	FILM	680PF	3%	2KV	D6613	8-719-911-19	DIODE 1SS119-25TD			
C6818	1-125-893-11	FILM	680PF	3%	2KV	D6615	8-719-911-19	DIODE 1SS119-25TD			
C6819	1-125-893-11	FILM	680PF	3%	2KV	D6616	8-719-510-12	DIODE D10SC4M-F			
C6820	1-125-893-11	FILM	680PF	3%	2KV	D6617	8-719-500-71	DIODE D8LC40F			
C6824	1-107-846-11	FILM	0.1MF	5%	200V	D6618	8-719-047-31	DIODE RBA-402L			
C6825	1-115-352-81	FILM	0.1MF	5%	250V	D6619	8-719-510-12	DIODE D10SC4M-F			
C6826	1-115-518-81	FILM	0.47MF	5%	250V	D6620	8-719-510-09	DIODE D10SC6M-F			
C6827	1-115-511-81	FILM	0.12MF	5%	250V	D6621	8-719-991-33	DIODE 1SS133T-77			
C6828	1-127-680-91	CERAMIC		2%	100V	D6622	8-719-991-33	DIODE 1SS133T-77			
C6829	1-127-680-91	CERAMIC		2%	100V	D6623	8-719-911-19	DIODE 1SS119-25TD			
C6830	1-107-655-11	ELECT	47MF	20%	250V	D6624	8-719-991-33	DIODE 1SS133T-77			
C6831	1-102-228-00	CERAMIC	470PF	10%	500V	D6625	8-719-991-33	DIODE 1SS133T-77			
C6832	1-126-941-11	ELECT	470MF	20%	25V	D6627	8-719-982-27	DIODE MTZJ-T-77-33C			
C6833	1-126-941-11	ELECT	470MF	20%	25V	D6628	8-719-109-97	DIODE MTZJ-T-77-6.8			
C6834	1-102-228-00	CERAMIC	470PF	10%	500V	D6629	8-719-991-33	DIODE 1SS133T-77			
C6835	1-102-228-00	CERAMIC	470PF	10%	500V	D6630	8-719-991-33	DIODE 1SS133T-77			
C6836	1-123-024-21	ELECT	33MF		160V						
C6837	1-106-375-12	MYLAR	0.022MF	10%	250V						

D

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REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
D6651	8-719-068-00	DIODE ERC04-06SE		L6607	1-412-525-31	INDUCTOR	10UH
D6652	8-719-923-78	DIODE MTZJ-T-77-12		L6651	1-414-183-41	INDUCTOR	10UH
D6653	8-719-510-64	DIODE DINL20U-TR		L6700	1-412-524-11	INDUCTOR	8.2UH
D6654	8-719-059-23	DIODE P6KE200AG23		L6801	1-412-519-11	INDUCTOR	3.3UH
D6655	8-719-979-64	DIODE UF4005PKG23		L6802	1-412-519-11	INDUCTOR	3.3UH
D6656	8-719-510-64	DIODE DINL20U-TR		L6803	1-412-519-11	INDUCTOR	3.3UH
D6658	8-719-068-00	DIODE ERC04-06SE		L6805	1-408-947-00	INDUCTOR	2.2MMH
D6659	8-719-510-64	DIODE DINL20U-TR		L6806	1-410-397-21	FERRITE	1.1UH
D6676	8-719-991-33	DIODE 1SS133T-77		L6807	1-410-397-21	FERRITE	1.1UH
D6677	8-719-921-40	DIODE MTZJ-T-77-4.7B		L6808	1-406-675-11	INDUCTOR	0UH
D6678	8-719-921-40	DIODE MTZJ-T-77-4.7B		< FILTER >			
D6679	8-719-991-33	DIODE 1SS133T-77		LF6603	1-406-659-21	INDUCTOR	0UH
D6681	8-719-991-33	DIODE 1SS133T-77		LF6604	1-406-659-21	INDUCTOR	0UH
D6700	8-719-908-03	DIODE GP08DPKG23		LF6801	1-406-985-11	INDUCTOR	0UH
D6701	8-719-110-41	DIODE MTZJ-T-77-15B		LF6851	1-406-674-11	INDUCTOR	0UH
D6803	8-719-908-03	DIODE RGP08DPKG23		< IC LINK >			
D6804	1-535-143-11	LEAD JUMPER (10.0MM)		PS6601 Δ	1-801-550-21	PROTECTOR MODULE 2.5A MP250	
D6805	8-719-302-43	DIODE RGP10GPKG23		PS6602 Δ	1-801-550-21	PROTECTOR MODULE 2.5A MP250	
D6806	8-719-979-85	DIODE REP15GPKG23		PS6603 Δ	1-801-549-21	PROTECTOR MODULE 2.5A MP250	
D6807	8-719-510-73	DIODE S3L20UF4		PS6604 Δ	1-801-550-21	PROTECTOR MODULE 2.5A MP250	
D6808	8-719-510-73	DIODE S3L20UF4		PS6605 Δ	1-801-550-21	PROTECTOR MODULE 2.5A MP250	
D6809	8-719-991-33	DIODE 1SS133T		< TRANSISTOR >			
D6810	8-719-923-88	DIODE MTZJ-15B		Q6600	8-729-046-47	TRANSISTOR KSC2500-BTA	
D6811	8-719-923-88	DIODE MTZJ-15B		Q6602	8-729-026-41	TRANSISTOR 2SA933AS-RT	
D6812	8-719-991-33	DIODE 1SS133T-77		Q6603	8-729-119-78	TRANSISTOR 2SC1740S-RT	
D6813	8-719-923-88	DIODE MTZJ-15B		Q6605	8-729-046-47	TRANSISTOR KSC2500-BTA	
D6851	8-719-970-87	DIODE ERA38-06TP1		Q6606	8-729-029-56	TRANSISTOR DTA144ESA-TP	
D6852	8-719-970-87	DIODE ERA38-06TP1		Q6607	8-729-119-78	TRANSISTOR 2SC1740S-RT	
< FERRITE BEAD >				Q6608	8-729-029-66	TRANSISTOR DTC114ESA	
FB6602	1-410-396-41	FERRITE	0.45UH	Q6651	8-729-026-41	TRANSISTOR 2SA933AS-RT	
FB6603	1-410-396-41	FERRITE	0.45UH	Q6652	8-729-029-86	TRANSISTOR DTC124ES-TP	
< IC >				Q6667	8-729-026-41	TRANSISTOR 2SA933AS-RT	
IC6600	1-810-051-11	POWER MODULE DM-48		Q6676	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6604	8-729-045-40	TRANSISTOR MX0842B-F		Q6677	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6651	8-759-468-89	IC TOP209P		Q6678	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6652	8-759-604-39	IC L78M12CV		Q6679	8-729-026-41	TRANSISTOR 2SA933AS-RT	
IC6653	8-759-544-13	IC KA78R09TU		Q6680	8-729-029-66	TRANSISTOR DTC114ESA-TP	
IC6654	8-759-457-44	IC KA78R05TU		Q6681	8-729-029-66	TRANSISTOR DTC114ESA-TP	
IC6667	8-759-908-15	IC TL431CZ		Q6700	8-729-039-68	TRANSISTOR IRF620	
IC6676	8-759-908-15	IC TL431CZ		Q6801	8-729-119-80	TRANSISTOR 2SC2688-LK	
IC6700	8-759-192-71	IC STV9379		Q6802	8-729-119-80	TRANSISTOR 2SC2688-LK	
IC6801	8-759-103-93	IC LM393P		Q6803	8-729-046-18	TRANSISTOR 2SC5480-01	
< COIL >				Q6804	8-729-046-18	TRANSISTOR 2SC5480-01	
L6602	1-412-529-11	INDUCTOR	22UH	Q6805	8-729-038-83	TRANSISTOR 2SK2251-01-F19	
L6603	1-412-529-11	INDUCTOR	22UH	Q6806	8-729-930-91	TRANSISTOR IRF740	
L6604	1-412-525-31	INDUCTOR	10UH	Q6807	8-729-030-03	TRANSISTOR DTC144ESA	
L6605	1-412-525-31	INDUCTOR	10UH	Q6809	8-729-119-78	TRANSISTOR 2SC1740S-RT	
L6606	1-412-525-31	INDUCTOR	10UH	Q6810	8-729-026-41	TRANSISTOR 2SA933AS-RT	
				Q6851	8-729-043-95	TRANSISTOR 2SC3840K	

The components identified by shading and marked Δ are critical for safety
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D

REF. NO.	PART.NO	DESCRIPTION	REMARK				REF. NO.	PART.NO	DESCRIPTION	REMARK			
< RESISTOR >							R6677	1-249-417-11	CARBON	1K	5%	1/4W	
R6601	△ 1-202-968-11	CEMENTED	1.2	5%	10W		R6678	1-249-417-11	CARBON	1K	5%	1/4W	
R6603	1-249-430-11	CARBON	12K	5%	1/4W		R6679	1-215-479-00	METAL	270K	1%	1/4W	
R6604	1-249-421-11	CARBON	2.2K	5%	1/4W		R6681	1-215-467-00	METAL	82K	1%	1/4W	
R6605	1-249-417-11	CARBON	1K	5%	1/4W	F	R6682	1-215-447-00	METAL	12K	1%	1/4W	
R6606	△ 1-202-968-11	CEMENTED	1.2	5%	10W		R6683	1-215-429-00	METAL	2.2K	1%	1/4W	
R6607	△ 1-202-968-11	CEMENTED	1.2	5%	10W		R6684	1-247-807-31	CARBON	100	5%	1/4W	
R6608	△ 1-202-968-11	CEMENTED	1.2	5%	10W		R6685	1-249-417-11	CARBON	1K	5%	1/4W	
R6611	1-260-125-11	CARBON	150K	5%	1/2W		R6686	1-215-449-00	METAL	15K	1%	1/4W	
R6612	1-260-125-11	CARBON	150K	5%	1/2W		R6687	1-249-431-11	CARBON	15K	5%	1/4W	
R6613	1-216-369-00	METAL OXIDE	1	5%	2W	F	R6688	1-249-417-11	CARBON	1K	5%	1/4W	
R6614	1-260-125-11	CARBON	150K	5%	1/2W		R6700	1-215-441-00	METAL	6.8K	1%	1/4W	
R6615	1-260-125-11	CARBON	150K	5%	1/2W		R6701	1-215-437-91	METAL	4.7K	1%	1/4W	
R6616	1-216-369-00	METAL OXIDE	1	5%	2W	F	R6702	1-215-441-00	METAL	6.8K	1%	1/4W	
R6619	1-249-425-11	CARBON	4.7K	5%	1/4W		R6703	1-215-437-91	METAL	4.7K	1%	1/4W	
R6620	1-249-443-11	CARBON	0.47	5%	1/4W	F	R6704	1-249-383-11	CARBON	1.5	5%	1/4W	
R6624	1-249-425-11	CARBON	4.7K	5%	1/4W		R6705	1-247-791-91	CARBON	22	5%	1/4W	
R6625	1-249-429-11	CARBON	10K	5%	1/4W		R6707	1-215-888-00	METAL OXIDE	220	5%	2W	
R6626	1-247-807-31	CARBON	100	5%	1/4W		R6708	1-214-798-21	METAL	1.8	1%	1/2W	
R6627	1-249-429-11	CARBON	10K	5%	1/4W		R6709	1-214-798-21	METAL	1.8	1%	1/2W	
R6628	1-260-129-11	CARBON	330K	5%	1/2W		R6710	1-247-843-11	CARBON	3.3K	5%	1/4W	
R6629	1-260-129-11	CARBON	330K	5%	1/2W		R6801	1-215-440-00	METAL	6.2K	1%	1/4W	
R6630	1-249-417-11	CARBON	1K	5%	1/4W		R6802	1-214-915-00	METAL	120K	1%	1/2W	
R6631	1-249-425-11	CARBON	4.7K	5%	1/4W		R6803	1-249-421-11	CARBON	2.2K	5%	1/4W	
R6632	1-207-905-00	WIREWOUND	0.27	10%	2W	F	R6804	1-247-807-31	CARBON	100	5%	1/4W	
R6633	1-249-429-11	CARBON	10K	5%	1/4W		R6805	1-247-807-31	CARBON	100	5%	1/4W	
R6635	1-535-143-61	LEAD JUMPER (5.0MM)					R6806	1-249-411-11	CARBON	330	5%	1/4W	
R6637	1-249-421-11	CARBON	2.2K	5%	1/4W		R6807	1-249-411-11	CARBON	330	5%	1/4W	
R6638	1-247-895-91	CARBON	470K	5%	1/4W		R6808	1-260-340-11	CARBON	10K	5%	1/2W	
R6639	1-249-416-11	CARBON	820	5%	1/4W		R6809	1-260-340-11	CARBON	10K	5%	1/2W	
R6640	1-249-417-11	CARBON	1K	5%	1/4W		R6810	1-215-920-51	METAL OXIDE	3.3K	5%	3W	
R6641	1-260-127-11	CARBON	220K	5%	1/2W		R6811	1-216-461-00	METAL OXIDE	5.6K	5%	2W	
R6642	1-249-389-91	CARBON	4.7	5%	1/4W	F	R6812	1-215-895-11	METAL OXIDE	3.3K	5%	2W	
R6643	1-249-417-11	CARBON	1K	5%	1/4W	F	R6813	1-215-895-11	METAL OXIDE	3.3K	5%	2W	
R6644	1-249-429-11	CARBON	10K	5%	1/4W		R6814	1-215-880-00	METAL OXIDE	10	5%	2W	
R6645	1-260-131-11	CARBON	470K	5%	1/2W		R6815	1-215-880-00	METAL OXIDE	10	5%	2W	
R6646	1-249-429-11	CARBON	10K	5%	1/4W		R6816	1-216-361-00	METAL OXIDE	0.22	5%	2W	
R6647	1-249-410-11	CARBON	270	5%	1/4W		R6817	1-216-361-00	METAL OXIDE	0.22	5%	2W	
R6648	1-247-863-91	CARBON	22K	5%	1/4W		R6818	1-247-807-31	CARBON	100	5%	1/4W	
R6649	1-215-926-00	METAL OXIDE	33K	5%	3W	F	R6819	1-247-807-31	CARBON	100	5%	1/4W	
R6651	1-247-791-91	CARBON	22	5%	1/4W		R6831	1-260-124-11	CARBON	120K	5%	1/2W	
R6652	1-249-389-11	CARBON	4.7	5%	1/4W	F	R6832	1-216-434-11	METAL OXIDE	1.8K	5%	1W	
R6653	1-249-421-11	CARBON	2.2K	5%	1/4W		R6833	1-202-972-61	FUSIBLE	1	5%	1/4W	
R6655	1-249-429-11	CARBON	10K	5%	1/4W		R6834	1-249-377-11	CARBON	0.47	5%	1/4W	
R6656	1-218-265-11	METAL	8.2M	5%	1W		R6835	1-249-377-11	CARBON	0.47	5%	1/4W	
R6657	1-215-419-91	METAL	820	1%	1/4W		R6836	1-249-431-11	CARBON	15K	5%	1/4W	
R6666	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F	R6837	1-215-919-51	FILM	2.2K	5%	3W	
R6667	1-215-441-00	METAL	6.8K	1%	1/4W		R6838	1-260-119-11	CARBON	47K	5%	1/2W	
R6668	1-249-429-11	CARBON	10K	5%	1/4W		R6839	1-215-919-51	FILM	2.2K	5%	3W	
R6669	1-249-413-11	CARBON	470	5%	1/4W		R6840	1-247-843-11	CARBON	3.3K	5%	1/4W	
R6676	1-249-417-11	CARBON	1K	5%	1/4W		R6842	1-260-123-91	CARBON	100K	5%	1/2W	



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REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R6843	1-247-855-91	CARBON	10K 5% 1/4W	C4319	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6844	1-247-879-91	CARBON	100K 5% 1/4W	C4320	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6845	1-247-863-91	CARBON	22K 5% 1/4W	C4321	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6851	1-260-123-91	CARBON	100K 5% 1/2W	C4322	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6852	1-260-123-91	CARBON	100K 5% 1/2W	C4324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6853	1-260-123-91	CARBON	100K 5% 1/2W	C4325	1-163-093-91	CERAMIC CHIP 10PF	
R6854	1-249-417-11	CARBON	1K 5% 1/4W	C4329	1-126-963-11	ELECT 4.7MF	20% 50V
R6856	1-216-485-11	METAL OXIDE	5.6K 5% 3W F	C4330	1-136-165-00	FILM 0.1MF	5% 50V
R6857	1-216-485-11	METAL OXIDE	5.6K 5% 3W F	C4331	1-126-959-11	ELECT 0.47MF	20% 50V
R6858	1-216-485-11	METAL OXIDE	5.6K 5% 3W F	C4332	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6859	1-216-485-11	METAL OXIDE	5.6K 5% 3W F	C4333	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6880	1-215-436-00	METAL	4.3K 1% 1/4W	C4334	1-126-967-11	ELECT 47MF	20% 50V
R6885	1-215-493-00	METAL	1M 1% 1/4W	C4336	1-126-967-11	ELECT 47MF	20% 50V
R6886	1-215-477-00	METAL	220K 1% 1/4W	C4338	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6887	1-215-461-00	METAL	47K 1% 1/4W	C4340	1-126-967-11	ELECT 47MF	20% 50V
R6888	1-249-441-11	CARBON	100K 5% 1/4W	C4342	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
R6889	1-249-421-11	CARBON	2.2K 5% 1/4W	C4343	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6890	1-247-887-00	CARBON	220K 5% 1/4W	C4344	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
R6891	1-247-895-91	CARBON	470K 5% 1/4W	C4345	1-126-967-11	ELECT 47MF	20% 50V
R6892	1-249-437-11	CARBON	47K 5% 1/4W	C4346	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6893	1-249-429-11	CARBON	10K 5% 1/4W	C4347	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6894	1-535-303-00	LEAD, JUMPER (5.0MM)		C4348	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6895	1-249-443-11	CARBON	0.47 5% 1/4W F	C4349	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R6896	1-249-443-11	CARBON	0.47 5% 1/4W F	C4350	1-126-963-91	CERAMIC CHIP 0.1MF	20% 25V
< RELAY >				C4351	1-163-013-91	CERAMIC CHIP 1000PF	10% 50V
RY6601	Δ 1-755-266-11	RELAY, AC POWER		C4352	1-126-967-11	ELECT 47MF	20% 50V
RY6602	Δ 1-755-167-11	RELAY, AC POWER		C4353	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
< TRANSFORMER >				C4354	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
T6600	Δ 1-431-616-11	TRANSFORMER, CONVERTER		C4355	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
T6601	Δ 1-433-516-11	TRANSFORMER, CONVERTER		C4356	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
T6651	Δ 1-431-732-11	TRANSFORMER, CONVERTER (SRT)		C4357	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
T6801	1-433-489-11	TRANSFORMER, FERRITE (HDT)		C4358	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
T6802	1-433-489-11	TRANSFORMER, FERRITE (HDT)		C4359	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
T6804	Δ 1-453-272-11	TRANSFORMER ASSY, FLYBACK (NX-4512/U2B4)		C4360	1-126-963-91	ELECT 4.7MF	20% 50V
T6805	1-429-741-11	TRANSFORMER, DRIVE		C4362	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
T6852	1-426-896-11	TRANSFORMER, FERRITE (DFT)		C4363	1-126-967-11	ELECT 47MF	20% 50V
< THERMISTOR >				C4364	1-126-967-11	ELECT 47MF	20% 50V
TH6600	Δ 1-809-827-11	THERMISTOR, POSITIVE		C4369	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
TH6700	1-800-193-00	THERMISTOR		C4370	1-126-967-11	ELECT 47MF	20% 50V
< CAPACITOR >				C4371	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
*****				C4377	1-126-960-11	ELECT 1MF	20% 50V
*A-1640-319-A E BOARD, COMPLETE				C4380	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
*****				C4381	1-163-249-11	CERAMIC CHIP 82PF	5% 50V
< CONNECTOR >				C4518	1-162-638-11	CERAMIC CHIP 1MF	16V
C4316	1-104-664-11	ELECT 47MF	20% 25V	CN4101	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
C4317	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN4500	1-564-511-11	PLUG, CONNECTOR 8P	
C4318	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN4502	*1-568-878-51	PIN, CONNECTOR 3P	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< DIODE >				R4337	1-216-025-91	RES,CHIP	100 5% 1/10W
D4304	8-719-923-60	DIODE MTZJ-T-77-9.1A		R4339	1-216-049-91	RES,CHIP	1K 5% 1/10W
D4305	8-719-923-60	DIODE MTZJ-T-77-9.1A		R4340	1-216-111-00	RES,CHIP	390K 5% 1/10W
D4311	8-719-914-43	DIODE DAN202K-T-146		R4341	1-216-295-91	SHORT	0
D4312	8-719-914-43	DIODE DAN202K-T-146		R4343	1-216-025-91	RES,CHIP	100 5% 1/10W
D4313	8-719-401-63	DIODE MA3062M-TX		R4344	1-216-025-91	RES,CHIP	100 5% 1/10W
< FERRITE BEAD >				R4345	1-216-677-11	METAL CHIP	12K 0.50% 1/10W
FB4387	1-216-295-91	SHORT	0	R4346	1-216-683-11	METAL CHIP	22K 0.50% 1/10W
FB4388	1-216-295-91	SHORT	0	R4347	1-216-025-91	RES,CHIP	100 5% 1/10W
FB4389	1-216-295-91	SHORT	0	R4348	1-216-025-91	RES,CHIP	100 5% 1/10W
< IC >				R4350	1-216-025-91	RES,CHIP	100 5% 1/10W
IC4301	8-752-086-23	IC CXA2100Q-TL		R4354	1-216-675-11	METAL CHIP	10K 0.50% 1/10W
< COIL >				R4358	1-216-071-00	RES,CHIP	8.2K 5% 1/10W
L4301	1-414-183-41	INDUCTOR	10UH	R4359	1-216-041-00	RES,CHIP	470 5% 1/10W
L4302	1-414-183-41	INDUCTOR	10UH	R4360	1-216-061-90	RES,CHIP	22K 5% 1/10W
L4303	1-414-183-41	INDUCTOR	10UH	R4361	1-216-133-00	RES,CHIP	3.3M 5% 1/10W
L4304	1-414-183-41	INDUCTOR	10UH	R4363	1-216-025-91	RES,CHIP	100 5% 1/10W
L4305	1-414-183-41	INDUCTOR	10UH	R4365	1-216-025-91	RES,CHIP	100 5% 1/10W
L4306	1-414-183-41	INDUCTOR	10UH	R4366	1-216-025-91	RES,CHIP	100 5% 1/10W
L4308	1-408-609-41	INDUCTOR	33UH	R4367	1-216-025-91	RES,CHIP	100 5% 1/10W
L4309	1-408-609-41	INDUCTOR	33UH	R4370	1-216-077-00	RES,CHIP	15K 5% 1/10W
< TRANSISTOR >				R4371	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q4304	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4372	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q4307	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4373	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q4308	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4374	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q4309	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4375	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q4310	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4376	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q4315	1-801-806-11	TRANSISTOR DTC144EKA-T146		R4377	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q4316	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R4378	1-216-101-00	RES,CHIP	150K 5% 1/10W
Q4317	8-729-900-53	TRANSISTOR DTC114EKA-T146		R4380	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q4318	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R4382	1-216-073-00	RES,CHIP	10K 5% 1/10W
< RESISTOR >				R4384	1-216-025-91	RES,CHIP	100 5% 1/10W
R4301	1-216-025-91	RES,CHIP	100 5% 1/10W	R4387	1-216-025-91	RES,CHIP	100 5% 1/10W
R4302	1-216-025-91	RES,CHIP	100 5% 1/10W	R4388	1-216-025-91	RES,CHIP	100 5% 1/10W
R4303	1-216-025-91	RES,CHIP	100 5% 1/10W	R4389	1-216-025-91	RES,CHIP	100 5% 1/10W
R4304	1-216-025-91	RES,CHIP	100 5% 1/10W	R4395	1-216-295-91	SHORT	0
R4305	1-216-025-91	RES,CHIP	100 5% 1/10W	R4396	1-216-295-91	SHORT	0
R4306	1-216-025-91	RES,CHIP	100 5% 1/10W	R4398	1-216-025-91	RES,CHIP	100 5% 1/10W
R4313	1-216-065-91	RES,CHIP	4.7K 5% 1/10W	R4401	1-216-099-91	RES,CHIP	120K 5% 1/10W
R4314	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R4402	1-216-129-00	RES,CHIP	2.2M 5% 1/10W
R4331	1-216-073-00	RES,CHIP	10K 5% 1/10W	R4403	1-216-073-00	RES,CHIP	10K 5% 1/10W
R4332	1-216-073-00	RES,CHIP	10K 5% 1/10W	R4404	1-216-073-00	RES,CHIP	10K 5% 1/10W
R4333	1-216-073-00	RES,CHIP	10K 5% 1/10W	R4405	1-216-689-11	RES,CHIP	39K 5% 1/10W
R4334	1-216-025-91	RES,CHIP	100 5% 1/10W	R4406	1-216-105-91	RES,CHIP	220K 5% 1/10W
R4335	1-216-025-91	RES,CHIP	100 5% 1/10W	R4407	1-216-091-00	RES,CHIP	56K 5% 1/10W
R4336	1-216-025-91	RES,CHIP	100 5% 1/10W	R4504	1-216-295-91	SHORT	0
				R4505	1-216-295-91	SHORT	0
				R4506	1-216-295-91	SHORT	0
				R4507	1-216-129-91	RES,CHIP	2.2M 5% 1/10W
				R4518	1-216-025-91	RES,CHIP	100 5% 1/10W
				R4519	1-216-025-91	RES,CHIP	100 5% 1/10W

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
R4520	1-216-295-91	SHORT	0	C6255	1-136-177-00	FILM 1MF	5% 50V
R4521	1-216-295-91	SHORT	0	C6256	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R4522	1-216-295-91	SHORT	0	C6257	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V
R4523	1-216-295-91	SHORT	0	C6258	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
< CRYSTAL >				C6259	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V
X4300	1-767-127-11	VIBRATOR, CERAMIC		C6260	1-104-664-11	ELECT 47MF	20% 16V
*****				C6261	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V
	A-1640-320-A	D1 BOARD, COMPLETE		C6262	1-136-165-00	FILM 0.1MF	5% 50V
		*****		C6263	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
	4-382-854-11	SCREW (M3X10), P, SW (+)		C6264	1-126-964-11	ELECT 10MF	20% 50V
< CAPACITOR >				C6306	1-126-964-11	ELECT 10MF	20% 50V
C6100	1-136-165-00	FILM 0.1MF	5% 50V	C6307	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C6101	1-136-165-00	FILM 0.1MF	5% 50V	C6350	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C6102	1-136-165-00	FILM 0.1MF	5% 50V	C6351	1-126-967-11	ELECT 47MF	20% 50V
C6103	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V	C6353	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V
C6104	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V	C6354	1-136-159-00	FILM 0.033MF	5% 50V
C6105	1-126-967-11	ELECT 47MF	20% 50V	C6355	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C6106	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C6356	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C6108	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C6357	1-136-165-00	FILM 0.1MF	5% 50V
C6109	1-126-967-11	ELECT 47MF	20% 50V	C6358	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V
C6110	1-126-967-11	ELECT 47MF	20% 50V	C6359	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V
C6111	1-126-967-11	ELECT 47MF	20% 50V	C6360	1-107-714-11	ELECT 10MF	20% 50V
C6112	1-163-037-11	CERAMIC CHIP 0.022MF	10% 50V	C6361	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C6113	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C6362	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C6114	1-126-964-11	ELECT 10MF	20% 50V	C6363	1-104-665-11	ELECT 100MF	20% 25V
C6115	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	C6364	1-137-493-11	FILM 0.0047MF	5% 630V
C6116	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C6365	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V
C6117	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C6367	1-104-329-11	CERAMIC CHIP 0.1MF	10% 50V
C6119	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C6368	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C6121	1-126-964-11	ELECT 10MF	20% 50V	C6370	1-137-493-11	FILM 0.0047MF	5% 630V
C6122	1-126-967-11	ELECT 47MF	20% 50V	C6371	1-137-493-11	FILM 0.0047MF	5% 630V
C6125	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C6373	1-136-153-00	FILM 0.01MF	5% 50V
C6126	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C6374	1-137-499-11	FILM 0.015MF	5% 630V
C6127	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C6375	1-102-110-00	CERAMIC 220PF	10% 50V
C6128	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C6376	1-104-664-11	ELECT 47MF	20% 16V
C6129	1-115-339-91	CERAMIC CHIP 0.1MF	10% 50V	C6377	1-128-551-11	ELECT 22MF	20% 25V
C6130	1-163-259-91	CERAMIC CHIP 220PF	5% 50V	C6378	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V
C6131	1-126-964-11	ELECT 10MF	20% 50V	C6380	1-136-165-00	FILM 0.1MF	5% 50V
C6132	1-163-259-91	CERAMIC CHIP 220PF	5% 50V	C6381	1-126-960-11	ELECT 1MF	20% 50V
C6199	1-163-229-11	CERAMIC CHIP 12PF	5% 50V	C6385	1-104-664-11	ELECT 47MF	20% 25V
C6207	1-126-967-11	ELECT 47MF	20% 50V	C6386	1-104-664-11	ELECT 47MF	20% 25V
C6208	1-126-967-11	ELECT 47MF	20% 50V	C6388	1-126-964-11	ELECT 10MF	20% 50V
C6209	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C6389	1-126-964-11	ELECT 10MF	20% 50V
C6210	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C6392	1-104-664-11	ELECT 47MF	20% 25V
C6250	1-104-664-11	ELECT 47MF	20% 16V	C6401	1-126-964-11	ELECT 10MF	20% 50V
C6253	1-115-339-11	CERAMIC CHIP 0.1MF	10% 50V	C6402	1-107-714-11	ELECT 10MF	20% 50V
C6254	1-136-177-00	FILM 1MF	5% 50V	C6407	1-136-161-00	FILM 0.047MF	5% 50V
				C6408	1-136-161-00	FILM 0.047MF	5% 50V
				C6409	1-126-964-11	ELECT 10MF	20% 50V

The components identified by shading and marked Δ are critical for safety
Replace only with the part number specified.

D1

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< CONNECTOR >				< FILTER >			
CN6502	*1-564-509-11	PLUG, CONNECTOR 6P		LF6350	1-406-989-21	INDUCTOR 0UH	
CN6601	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		LF6351	1-406-989-21	INDUCTOR 0UH	
CN6622	1-568-878-51	PIN, CONNECTOR 3P		< IC LINK >			
CN6633	*1-568-878-51	PIN, CONNECTOR 3P		PS6376	Δ 1-532-637-00	LINK, IC 1A/150V (ICP-N25)	
< DIODE >				< TRANSISTOR >			
D6100	8-719-914-43	DIODE DAN202K-T-146		Q6100	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6101	8-719-923-30	DIODE MTZJ-77-4.7B		Q6101	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6102	8-719-914-43	DIODE DAN202K-T-146		Q6102	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6104	8-719-914-43	DIODE DAN202K-T-146		Q6103	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6105	8-719-914-43	DIODE DAN202K-T-146		Q6104	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6106	8-719-914-43	DIODE DAN202K-T-146		Q6105	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6108	8-719-921-40	DIODE MTZJ-T-77-4.7B		Q6106	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6127	8-719-914-43	DIODE DAN202K-T-146		Q6107	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6128	8-719-914-43	DIODE DAN202K-T-146		Q6108	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6129	8-719-914-43	DIODE DAN202K-T-146		Q6110	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6198	8-719-109-54	DIODE RD2.2ESB2		Q6112	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6253	8-719-911-19	DIODE 1SS119-25		Q6113	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6254	1-535-303-00	LEAD, JUMPER (5.0MM)		Q6118	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6350	8-719-914-47	DIODE DAN202K		Q6119	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6351	8-719-914-43	DIODE DAN202K-T-146		Q6120	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6352	8-719-914-43	DIODE DAN202K-T-146		Q6122	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6353	8-719-987-87	DIODE ERA82-004-TP1		Q6123	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6354	8-719-914-43	DIODE DAN202K-T-146		Q6125	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6355	8-719-914-43	DIODE DAN202K-T-146		Q6126	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6358	8-719-914-43	DIODE DAN202K-T-146		Q6127	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6359	8-719-302-43	DIODE RGP10GPKG23		Q6128	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6401	8-719-914-43	DIODE DAN202K-T-146		Q6129	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6402	8-719-982-03	DIODE MTZJ-T-77-3.6A		Q6130	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
D6403	8-719-921-63	DIODE MTZJ-T-77-7.5B		Q6131	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6404	8-719-914-43	DIODE DAN202K-T-146		Q6201	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
D6405	8-719-921-63	DIODE MTZJ-T-77-7.5B		Q6202	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
< IC >				Q6250	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
IC6100	8-759-103-93	IC LM393N		Q6251	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
IC6101	8-759-450-95	IC LM393N		Q6252	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	
IC6102	8-759-701-50	IC NJM3404AD		Q6253	8-729-017-06	TRANSISTOR 2SC4793	
IC6103	8-759-450-95	IC LM393N		Q6254	8-729-017-05	TRANSISTOR 2SA1837	
IC6250	8-759-478-66	IC CXA8070P		Q6350	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
IC6251	8-759-903-16	IC LM318P		Q6351	8-729-119-78	TRANSISTOR 2SC1740S-RT	
IC6302	8-752-072-94	IC CXA1875AM-T4		Q6352	8-729-114-91	TRANSISTOR 2SB734-T-3	
IC6350	8-759-135-80	IC LM358P		Q6353	8-729-114-91	TRANSISTOR 2SB734-T-3	
IC6351	8-759-103-93	IC LM393P		Q6354	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
IC6352	8-759-103-93	IC LM393P		Q6356	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
IC6353	8-759-231-53	IC L7805CV		Q6358	8-729-038-83	TRANSISTOR 2SK2251-01-F19	
IC6354	8-759-325-48	IC CA0005AD		Q6401	1-801-806-11	TRANSISTOR DTC144EKA-T146	
IC6355	8-759-008-70	IC LM358N		Q6402	1-801-806-11	TRANSISTOR DTC144EKA-T146	
IC6356	8-759-822-38	IC LA6510		Q6403	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R	
				Q6404	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R	

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
Q6405	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R6149	1-216-025-91	RES,CHIP	100 5% 1/10W
Q6455	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R6154	1-216-651-91	METAL CHIP	1K 5% 1/10W
Q6465	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R6155	1-216-667-91	RES,CHIP	4.7K 0.50% 1/10W
< RESISTOR >				R6158	1-216-671-91	RES,CHIP	6.8K 5% 1/10W
R6100	1-216-033-00	RES,CHIP	220 5% 1/10W	R6159	1-216-295-91	SHORT	0
R6101	1-216-033-00	RES,CHIP	220 5% 1/10W	R6160	1-216-295-91	SHORT	0
R6102	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6161	1-216-671-11	METAL CHIP	6.8K 0.50% 1/10W
R6103	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6162	1-216-049-91	RES,CHIP	1K 5% 1/10W
R6104	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6165	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R6105	1-216-049-91	RES,CHIP	1K 5% 1/10W	R6168	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R6106	1-216-683-91	METAL CHIP	22K 5% 1/10W	R6169	1-216-699-11	METAL CHIP	100K 0.50% 1/10W
R6107	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	R6170	1-216-037-00	RES,CHIP	330 5% 1/10W
R6108	1-216-657-11	METAL CHIP	1.8K 0.50% 1/10W	R6171	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6109	1-216-683-91	METAL CHIP	22K 5% 1/10W	R6174	1-216-075-00	RES,CHIP	12K 5% 1/10W
R6110	1-216-683-91	METAL CHIP	22K 5% 1/10W	R6175	1-216-075-00	RES,CHIP	12K 5% 1/10W
R6111	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6176	1-216-043-91	RES,CHIP	2.2K 5% 1/10W
R6112	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6177	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R6113	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6178	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6114	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6179	1-216-635-91	RES,CHIP	220K 5% 1/10W
R6115	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6180	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6116	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6182	1-216-089-91	RES,CHIP	47K 5% 1/10W
R6117	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6183	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6118	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6186	1-216-657-91	RES,CHIP	1.8K 5% 1/10W
R6119	1-216-073-00	RES,CHIP	10K 5% 1/10W	R6187	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R6120	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6189	1-216-631-91	RES,CHIP	150K 5% 1/10W
R6121	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6190	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6122	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6191	1-215-925-11	METAL OXIDE	22K 5% 3W F
R6123	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6192	1-216-665-91	METAL CHIP	3.9K 5% 1/10W
R6124	1-216-089-91	RES,CHIP	47K 5% 1/10W	R6194	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
R6125	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6195	1-216-683-91	METAL CHIP	22K 5% 1/10W
R6126	1-216-037-00	RES,CHIP	330 5% 1/10W	R6196	1-249-377-11	CARBON	0.47 5% 1/4W F
R6127	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W	R6198	1-216-081-91	RES,CHIP	22K 5% 1/10W
R6128	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6199	1-216-081-91	RES,CHIP	22K 5% 1/10W
R6131	1-216-037-00	RES,CHIP	330 5% 1/10W	R6205	1-216-025-91	RES,CHIP	100 5% 1/10W
R6132	1-216-037-00	RES,CHIP	330 5% 1/10W	R6206	1-216-105-91	RES,CHIP	220K 5% 1/10W
R6133	1-216-037-00	RES,CHIP	330 5% 1/10W	R6207	1-218-760-91	RES,CHIP	220K 5% 1/10W
R6134	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6208	1-216-089-91	RES,CHIP	47K 5% 1/10W
R6135	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6209	1-216-295-91	SHORT	0
R6136	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6210	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6137	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6211	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6138	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6212	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6139	1-216-691-11	METAL CHIP	47K 0.50% 1/10W	R6216	1-216-089-91	RES,CHIP	47K 5% 1/10W
R6140	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6217	1-216-073-00	RES,CHIP	10K 5% 1/10W
R6141	1-216-683-91	METAL CHIP	22K 5% 1/10W	R6254	1-216-049-91	RES,CHIP	1K 5% 1/10W
R6142	1-216-672-91	METAL CHIP	7.5K 5% 1/10W	R6255	1-216-061-00	RES,CHIP	3.3K 5% 1/10W
R6143	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6256	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6145	1-216-647-91	RES,CHIP	680 5% 1/10W	R6257	1-216-061-00	RES,CHIP	3.3K 5% 1/10W
R6146	1-216-667-91	METAL CHIP	4.7K 5% 1/10W	R6258	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R6147	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6259	1-216-097-91	RES,CHIP	100K 5% 1/10W
R6148	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R6260	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R6261	1-216-097-91	RES,CHIP	100K 5% 1/10W

REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
R6262	1-260-321-71	CARBON	270	5%	1/2W	R6377	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R6263	1-216-025-91	RES,CHIP	100	5%	1/10W	R6378	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R6264	1-216-025-91	RES,CHIP	100	5%	1/10W	R6379	1-216-295-91	SHORT	0		
R6265	1-216-101-00	RES,CHIP	150K	5%	1/10W	R6380	1-218-754-11	METAL CHIP	120K	0.50%	1/10W
R6267	1-216-049-91	RES,CHIP	1K	5%	1/10W	R6381	1-216-045-00	RES,CHIP	680	5%	1/10W
R6269	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R6382	1-218-754-11	METAL CHIP	120K	0.50%	1/10W
R6270	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R6383	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R6271	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	R6384	1-216-043-91	RES,CHIP	560	5%	1/10W
R6272	1-216-081-71	RES,CHIP	22K	5%	1/10W	R6385	1-216-295-91	SHORT	0		
R6273	1-216-081-00	RES,CHIP	22K	5%	1/10W	R6386	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R6276	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	R6387	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R6277	1-216-686-11	METAL CHIP	30K	0.50%	1/10W	R6391	1-249-417-11	CARBON	1K	5%	1/4W
R6278	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6394	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R6279	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6395	1-216-081-00	RES,CHIP	22K	5%	1/10W
R6280	1-249-377-11	CARBON	0.47	5%	1/4W F	R6397	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R6281	1-249-377-11	CARBON	0.47	5%	1/4W F	R6398	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R6282	1-215-886-11	METAL OXIDE	100	5%	2W F	R6399	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R6283	1-216-393-00	METAL OXIDE	2.2	5%	3W F	R6400	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R6284	1-216-113-00	RES,CHIP	470K	5%	1/10W	R6401	1-216-295-91	SHORT	0		
R6285	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6402	1-216-295-91	SHORT	0		
R6286	1-216-073-00	RES,CHIP	10K	5%	1/10W	R6403	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R6287	1-216-073-00	RES,CHIP	10K	5%	1/10W	R6404	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6313	1-216-295-91	SHORT	0			R6405	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6322	1-216-049-91	RES,CHIP	1K	5%	1/10W	R6409	1-216-025-91	RES,CHIP	100	5%	1/10W
R6323	1-216-049-91	RES,CHIP	1K	5%	1/10W	R6410	1-216-073-91	RES,CHIP	10K	5%	1/10W
R6324	1-216-025-91	RES,CHIP	100	5%	1/10W	R6411	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6325	1-216-025-91	RES,CHIP	100	5%	1/10W	R6412	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6350	1-216-089-91	RES,CHIP	47K	5%	1/10W	R6413	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R6351	1-218-762-11	METAL CHIP	270K	0.50%	1/10W	R6414	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R6353	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W	R6415	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6355	1-218-774-11	METAL CHIP	820K	0.50%	1/10W	R6416	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6356	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	R6418	1-216-093-00	RES,CHIP	68K	5%	1/10W
R6357	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6419	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6358	1-216-047-91	RES,CHIP	820	5%	1/10W	R6420	1-216-091-00	RES,CHIP	56K	5%	1/10W
R6359	1-216-097-91	RES,CHIP	100K	5%	1/10W	R6421	1-216-637-11	METAL CHIP	270	0.50%	1/10W
R6360	1-216-073-00	RES,CHIP	10K	5%	1/10W	R6422	1-216-639-11	METAL CHIP	330	0.50%	1/10W
R6361	1-216-097-91	RES,CHIP	100K	5%	1/10W	R6423	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R6362	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	R6426	1-216-081-00	RES,CHIP	22K	5%	1/10W
R6363	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	R6427	1-216-081-00	RES,CHIP	22K	5%	1/10W
R6364	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6428	1-216-107-00	RES,CHIP	270K	5%	1/10W
R6365	1-216-033-00	RES,CHIP	220	5%	1/10W	R6429	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R6366	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R6430	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R6367	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	R6432	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R6368	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	R6433	1-216-073-00	RES,CHIP	10K	5%	1/10W
R6369	1-218-762-11	METAL CHIP	270K	0.50%	1/10W	R6437	1-249-422-11	CARBON	2.7K	5%	1/4W
R6370	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	R6438	1-249-421-11	CARBON	2.2K	5%	1/4W
R6371	1-215-910-00	METAL OXIDE	68	5%	3W F	R6439	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6372	1-216-033-00	RES,CHIP	220	5%	1/10W	R6440	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R6373	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	R6441	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R6374	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	R6442	1-216-039-00	RES,CHIP	390	5%	1/10W
R6375	1-216-041-00	RES,CHIP	470	5%	1/10W	R6455	1-216-295-91	SHORT	0		

REF.NO.	PART.NO	DESCRIPTION				REMARK	REF.NO.	PART.NO	DESCRIPTION				REMARK
R6456	1-216-097-91	RES,CHIP	100K	5%	1/10W			< FERRITE BEAD >					
R6457	1-216-075-00	RES,CHIP	12K	5%	1/10W								
R6458	1-216-089-91	RES,CHIP	47K	5%	1/10W		FB5400	1-410-397-21	FERRITE	1.1UH			
R6459	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		FB5401	1-410-396-41	FERRITE	0.45UH			
R6460	1-249-393-11	CARBON	10	5%	1/4W			< COIL >					
R6461	1-249-411-11	CARBON	330	5%	1/4W								
R6462	1-249-406-11	CARBON	120	5%	1/4W		L5400	1-410-784-41	INDUCTOR	0.18UH			
R6463	1-216-095-00	RES,CHIP	82K	5%	1/10W			< TRANSISTOR >					
R6464	1-216-079-00	RES,CHIP	18K	5%	1/10W								
*****							Q5400	8-729-119-78	TRANSISTOR	2SC1740S-RT			
A-1644-094-A VM BOARD, COMPLETE							Q5401	8-729-119-78	TRANSISTOR	2SC1740S-RT			
*****							Q5402	8-729-119-78	TRANSISTOR	2SC1740S-RT			
4-382-854-11 SCREW (M3X10), P, SW (+)							Q5403	8-729-119-78	TRANSISTOR	2SC1740S-RT			
< CAPACITOR >							Q5404	8-729-026-41	TRANSISTOR	2SA933AS-RT			
C5400	1-107-883-11	ELECT	330MF	20%	16V		Q5405	8-729-026-41	TRANSISTOR	2SA933AS-RT			
C5401	1-126-935-11	ELECT	470MF	20%	16V		Q5406	8-729-017-05	TRANSISTOR	2SA1837			
C5402	1-137-370-11	FILM	0.01MF	5%	50V		Q5407	8-729-017-06	TRANSISTOR	2SC4793			
C5403	1-126-935-11	ELECT	470MF	20%	6.3V		< RESISTOR >						
C5405	1-126-933-11	ELECT	100MF	20%	16V		R5400	1-249-401-11	CARBON	47	5%	1/4W	
C5406	1-126-935-11	ELECT	470MF	20%	6.3V		R5401	1-249-421-11	CARBON	2.2K	5%	1/4W	
C5407	1-104-989-91	FILM	0.0022MF	5%	200V		R5402	1-249-413-11	CARBON	470	5%	1/4W	
C5408	1-104-989-91	FILM	0.0022MF	5%	200V		R5403	1-249-393-11	CARBON	10	5%	1/4W F	
C5409	1-107-649-11	ELECT	2.2MF	20%	250V		R5404	1-249-417-11	CARBON	1K	5%	1/4W	
C5410	1-137-364-11	FILM	0.001MF	5%	50V		R5405	1-249-425-11	CARBON	4.7K	5%	1/4W	
C5411	1-137-364-11	FILM	0.001MF	5%	50V		R5406	1-249-425-11	CARBON	4.7K	5%	1/4W	
C5412	1-126-933-11	ELECT	100MF	20%	16V		R5407	1-249-399-11	CARBON	33	5%	1/4W	
C5413	1-126-933-11	ELECT	100MF	20%	16V		R5408	1-247-807-31	CARBON	100	5%	1/4W	
C5414	1-107-638-11	ELECT	33MF	20%	160V		R5409	1-247-815-91	CARBON	220	5%	1/4W	
C5415	1-107-363-91	FILM	0.0068MF	10%	200V		R5410	1-249-401-11	CARBON	47	5%	1/4W	
C5416	1-102-106-00	CERAMIC	100PF	10%	50V		R5411	1-249-401-11	CARBON	47	5%	1/4W	
C5419	1-101-880-00	CERAMIC	47PF	5%	50V		R5412	1-249-429-11	CARBON	10K	5%	1/4W	
C5430	1-162-117-00	CERAMIC	100PF	10%	500V		R5413	1-249-414-11	CARBON	560	5%	1/4W F	
< CONNECTOR >							R5414	1-249-432-11	CARBON	18K	5%	1/4W	
CN5402	*1-568-878-51	PIN, CONNECTOR 3P					R5415	1-260-311-11	CARBON	39	5%	1/2W	
CN5444	*1-770-723-11	CONNECTOR, BOARD TO BOARD 8P					R5416	1-249-383-11	CARBON	1.5	5%	1/4W F	
CN5555	1-695-915-11	TAB (CONTACT)					R5417	1-249-432-11	CARBON	18K	5%	1/4W	
CN5602	*1-564-509-11	PLUG, CONNECTOR 6P					R5418	1-249-414-11	CARBON	560	5%	1/4W	
< DIODE >							R5419	1-249-421-11	CARBON	2.2K	5%	1/4W	
D5400	8-719-991-33	DIODE 1SS133T-77					R5420	1-249-421-11	CARBON	2.2K	5%	1/4W	
D5401	8-719-510-02	DIODE D1NS4-TR					R5421	1-249-383-11	CARBON	1.5	5%	1/4W F	
D5402	8-719-991-33	DIODE 1SS133T-77					R5422	1-249-400-11	CARBON	39	5%	1/4W F	
D5403	8-719-991-33	DIODE 1SS133T-77					R5423	1-215-914-11	METAL OXIDE	330	5%	3W F	
D5404	8-719-991-33	DIODE 1SS133T-77					R5425	1-249-419-11	CARBON	1.5K	5%	1/4W	
*****							A-1646-170-A H1 BOARD, COMPLETE						
*****							< CAPACITOR >						
D5405	8-719-924-11	DIODE MTZJ-T-77-22					C7900	1-101-810-00	CERAMIC	100PF	5%	500V	
D5406	8-719-924-11	DIODE MTZJ-T-77-22											

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REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C7901	1-101-810-00	CERAMIC 100PF	5% 500V	C8102	1-104-760-11	CERAMIC CHIP 0.047MF	10% 50V
C7925	1-137-372-11	FILM 0.022MF	5% 50V	C8103	1-104-664-11	ELECT 47MF	20% 16V
C7926	1-137-372-11	FILM 0.022MF	5% 50V	C8104	1-126-934-11	ELECT 220MF	20% 16V
< CONNECTOR >				C8105	1-126-933-11	ELECT 100MF	20% 16V
CN7103	*1-564-514-11	PLUG, CONNECTOR 11P		C8106	1-126-933-11	ELECT 100MF	20% 16V
< SOCKET >				C8107	1-126-933-11	ELECT 100MF	20% 16V
J7900	1-779-947-11	TERMINAL BLOCK, S		C8108	1-126-933-11	ELECT 100MF	20% 16V
J7925	1-764-606-11	JACK		C8109	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
< COIL >				C8110	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
L7925	1-414-183-41	INDUCTOR 10UH		C8111	1-126-933-11	ELECT 100MF	20% 16V
L7926	1-414-183-41	INDUCTOR 10UH		C8125	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
< RESISTOR >				C8126	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
R7900	1-535-303-00	LEAD, JUMPER (5.0MM)		C8127	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
R7901	1-249-417-11	CARBON 1K 5%	1/4W	C8128	1-104-664-11	ELECT 47MF	20% 16V
R7902	1-247-895-91	CARBON 470K 5%	1/4W	C8129	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
R7903	1-247-895-91	CARBON 470K 5%	1/4W	C8130	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
R7904	1-535-303-00	LEAD, JUMPER (5.0MM)		C8131	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
R7905	1-249-417-11	CARBON 1K 5%	1/4W	C8132	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
R7906	1-535-303-00	LEAD, JUMPER (5.0MM)		C8133	1-104-664-11	ELECT 47MF	20% 16V
*****				C8134	1-104-664-11	ELECT 47MF	20% 16V
A-1648-015-A U BOARD, COMPLETE				C8135	1-164-505-11	CERAMIC CHIP 2.2MF	16V
*****				C8136	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
< CONNECTOR >				C8137	1-164-505-11	CERAMIC CHIP 2.2MF	16V
CN7101	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P		C8138	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
CN7977	*1-564-519-11	PLUG, CONNECTOR 4P		C8139	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
CN7988	*1-564-519-11	PLUG, CONNECTOR 4P		C8140	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
CN7990	*1-564-518-11	PLUG, CONNECTOR 3P		C8141	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
< JACK >				C8142	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
J7952	1-537-339-11	TERMINAL BOARD		C8143	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
< COIL >				C8144	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
L7954	1-402-711-11	INDUCTOR 1UH		C8145	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
L7956	1-402-711-11	INDUCTOR 1UH		C8146	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
*****				C8200	1-104-664-11	ELECT 47MF	20% 16V
A-1651-098-A J BOARD, COMPLETE (KV-29FX60A/29FX60D/				C8201	1-163-241-11	CERAMIC CHIP 39PF	5% 50V
***** 29FX60E/29FX60U)				C8202	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
A-1651-103-A J BOARD, COMPLETE (KV-29FX60B)				C8203	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
*****				C8204	1-164-506-11	CERAMIC CHIP 4.7MF	16V
< CAPACITOR >				C8205	1-165-319-11	CERAMIC CHIP 0.1MF	50V
C8100	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8208	1-164-506-11	CERAMIC CHIP 4.7MF	16V
C8101	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8209	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
				C8210	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C8211	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
				C8212	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
				C8213	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
				C8214	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
				C8215	1-163-243-11	CERAMIC CHIP 47PF	5% 50V
				C8216	1-126-933-11	ELECT 100MF	20% 16V
				C8217	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C8218	1-126-964-11	ELECT 10MF	20% 50V
				C8219	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
				C8220	1-126-964-11	ELECT 10MF	20% 50V



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C8221	1-104-664-11	ELECT 47MF	20% 16V	C8332	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C8222	1-104-664-11	ELECT 47MF	20% 16V	C8343	1-163-185-00	CERAMIC CHIP 150PF	5% 50V
C8223	1-104-664-11	ELECT 47MF	20% 16V				(KV-29FX60B)
C8224	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8344	1-163-173-00	CERAMIC CHIP 47PF	5% 50V
C8225	1-104-664-11	ELECT 47MF	20% 16V				(KV-29FX60B)
C8227	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V	C8401	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8228	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8402	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8229	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8403	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8230	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8404	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8231	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C8405	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8232	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8406	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8233	1-104-664-11	ELECT 47MF	20% 16V	C8407	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8234	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8408	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C8235	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8409	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8236	1-126-933-11	ELECT 100MF	20% 16V	C8410	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8237	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C8411	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8238	1-164-505-11	CERAMIC CHIP 2.2MF	16V	C8412	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8239	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8413	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8240	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V	C8414	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8241	1-126-964-11	ELECT 10MF	20% 50V	C8415	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8242	1-104-664-11	ELECT 47MF	20% 16V	C8416	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8300	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8417	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C8301	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8418	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8302	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8419	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8303	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8420	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8304	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8421	1-126-933-11	ELECT 100MF	20% 16V
C8305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8422	1-126-960-11	ELECT 1MF	20% 50V
C8306	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8423	1-126-933-11	ELECT 100MF	20% 16V
C8308	1-126-933-11	ELECT 100MF	20% 16V	C8425	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8426	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8311	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8427	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8450	1-104-664-11	ELECT 47MF	20% 16V
C8313	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8451	1-104-664-11	ELECT 47MF	20% 16V
C8314	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8455	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8315	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8456	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V
C8316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8550	1-126-933-11	ELECT 100MF	20% 16V
C8317	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8551	1-126-933-11	ELECT 100MF	20% 16V
C8318	1-126-933-11	ELECT 100MF	20% 16V	C8552	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8319	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8553	1-163-231-11	CERAMIC CHIP 15PF	5% 50V
C8320	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8554	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C8321	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8555	1-107-823-11	CERAMIC CHIP 0.47MF	10% 16V
C8322	1-126-933-11	ELECT 100MF	20% 16V	C8556	1-126-933-11	ELECT 100MF	20% 16V
C8323	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	C8557	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C8558	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8325	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8559	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C8326	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	C8560	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8327	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8561	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8328	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8562	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8329	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	C8563	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C8330	1-163-231-11	CERAMIC CHIP 15PF	5% 50V	C8564	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C8331	1-126-960-11	ELECT 1MF	20% 50V	C8565	1-163-227-11	CERAMIC CHIP 10PF	0.5PF 50V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C8566	1-163-263-11	CERAMIC CHIP 330PF	5% 50V	D8132	8-719-158-49	DIODE UDZ-TE-17-12B	
C8567	1-163-263-11	CERAMIC CHIP 330PF	5% 50V	D8200	8-719-158-49	DIODE UDZ-TE-17-12B	
C8568	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D8201	8-719-158-49	DIODE UDZ-TE-17-12B	
C8569	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D8202	8-719-158-49	DIODE UDZ-TE-17-12B	
C8570	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D8203	8-719-158-49	DIODE UDZ-TE-17-12B	
C8601	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8349	8-719-914-42	DIODE DA204K-T-146	
C8602	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8432	8-719-914-42	DIODE DA204K-T-146	(KV-29FX60B)
C8605	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8450	8-719-158-49	DIODE UDZ-TE-17-12B	
C8606	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8451	8-719-158-49	DIODE UDZ-TE-17-12B	
C8607	1-104-664-11	ELECT 47MF	20% 16V	D8550	8-719-914-42	DIODE DA204K-T-146	
C8608	1-104-664-11	ELECT 47MF	20% 16V	D8900	8-719-056-85	DIODE UDZ-8.2B	
C8609	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8901	8-719-056-85	DIODE UDZ-8.2B	
C8610	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8902	8-719-056-85	DIODE UDZ-8.2B	
C8611	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8903	8-719-056-85	DIODE UDZ-8.2B	
C8612	1-115-340-11	CERAMIC CHIP 0.22MF	10% 25V	D8904	8-719-056-85	DIODE UDZ-8.2B	
C8613	1-104-664-11	ELECT 47MF	20% 16V	D8905	8-719-056-85	DIODE UDZ-8.2B	
C8614	1-104-664-11	ELECT 47MF	20% 16V	D8906	8-719-056-85	DIODE UDZ-8.2B	
C8900	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8907	8-719-056-85	DIODE UDZ-8.2B	
C8901	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8908	8-719-056-85	DIODE UDZ-8.2B	
C8902	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8909	8-719-056-85	DIODE UDZ-8.2B	
C8903	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8910	8-719-056-85	DIODE UDZ-8.2B	
C8904	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8911	8-719-056-85	DIODE UDZ-8.2B	
C8905	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8912	8-719-158-49	DIODE UDZ-TE-17-12B	
C8906	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8913	8-719-158-49	DIODE UDZ-TE-17-12B	
C8907	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8914	8-719-158-49	DIODE UDZ-TE-17-12B	
C8908	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8915	8-719-158-49	DIODE UDZ-TE-17-12B	
C8909	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	D8922	8-719-056-84	DIODE UDZ-TE-17-7.5B	
C8910	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	D8923	8-719-978-04	DIODE UDZ-TE-17-3.3B	
C8911	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V				
C8916	1-126-933-11	ELECT 100MF	20% 16V			< FILTER >	
C8977	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	FL8200	1-236-071-11	ENCAPSULATED COMPONENT	
C8978	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	FL8201	1-233-764-21	FILTER	
		< FILTER >		FL8203	1-236-071-11	ENCAPSULATED COMPONENT	
CF8200	1-409-327-00	TRAP, CERAMIC (6.5MHZ)		FL8300	1-236-071-11	ENCAPSULATED COMPONENT	
		< CONNECTOR >		FL8301	1-236-071-11	ENCAPSULATED COMPONENT	
CN8101	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P		FL8400	1-236-071-11	ENCAPSULATED COMPONENT	
CN8102	*1-564-518-11	PLUG, CONNECTOR 3P		FL8401	1-236-071-11	ENCAPSULATED COMPONENT	
CN8900	1-561-534-41	SOCKET, PIN 21P		FL8550	1-236-071-11	ENCAPSULATED COMPONENT	
CN8901	1-695-293-11	SOCKET 21P		FL8551	1-236-071-11	ENCAPSULATED COMPONENT	
CN8902	1-695-293-11	SOCKET 21P		FL8552	1-236-071-11	ENCAPSULATED COMPONENT	
		< DIODE >				< IC >	
D8125	8-719-158-49	DIODE UDZ-TE-17-12B		IC8100	8-759-352-94	IC TDA7309D013TR	
D8126	8-719-158-49	DIODE UDZ-TE-17-12B		IC8101	8-759-085-34	IC TDA2822D	
D8127	8-719-158-49	DIODE UDZ-TE-17-12B		IC8125	8-759-351-01	IC TEA6422DT	
D8128	8-719-158-49	DIODE UDZ-TE-17-12B		IC8151	8-752-072-94	IC CXA1875AM-T4	
D8129	8-719-158-49	DIODE UDZ-TE-17-12B		IC8200	8-759-544-10	IC MSP3410D-QA-B4	
D8130	8-719-158-49	DIODE UDZ-TE-17-12B		IC8201	8-759-701-36	IC MC3403NS-E20	
D8131	8-719-158-49	DIODE UDZ-TE-17-12B		IC8202	8-759-908-15	IC TL431CZ	
				IC8300	8-759-546-01	IC TDA9320H-N1-518	
				IC8400	8-759-546-01	IC TDA9320H-N1-518	
				IC8451	8-759-385-76	IC MC14052BDR2	

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
IC8550	8-759-487-47	IC SDA9288X-B121		< RESISTOR >			
IC8601	8-759-544-24	IC LF90CDT		R8100	1-216-025-91	RES,CHIP	100 5% 1/10W
IC8602	8-759-544-23	IC LF80CDT		R8101	1-216-025-91	RES,CHIP	100 5% 1/10W
IC8603	8-759-544-22	IC LF50CDT		R8102	1-216-295-91	SHORT	0
IC8604	8-759-544-22	IC LF50CDT		R8103	1-216-089-91	RES,CHIP	47K 5% 1/10W
		< SOCKET >		R8104	1-216-089-91	RES,CHIP	47K 5% 1/10W
J8901	1-774-747-11	JACK BLOCK, PIN		R8105	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
		< COIL >		R8106	1-216-081-00	RES,CHIP	22K 5% 1/10W
L8150	1-414-757-11	INDUCTOR 100UH		R8107	1-216-081-00	RES,CHIP	22K 5% 1/10W
L8200	1-412-006-42	INDUCTOR CHIP 10UH		R8108	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
L8201	1-412-064-11	INDUCTOR CHIP 100UH		R8109	1-249-389-11	CARBON	4.7 5% 1/4W F
L8343	1-410-421-21	INDUCTOR 15UH (KV-29FX60B)		R8110	1-249-389-11	CARBON	4.7 5% 1/4W F
L8550	1-410-428-11	INDUCTOR 56UH		R8111	1-216-033-00	RES,CHIP	220 5% 1/10W
		< TRANSISTOR >		R8112	1-216-033-00	RES,CHIP	220 5% 1/10W
Q8100	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8115	1-216-029-91	RES,CHIP	150 5% 1/10W
Q8101	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8116	1-216-029-91	RES,CHIP	150 5% 1/10W
Q8156	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8117	1-216-029-91	RES,CHIP	150 5% 1/10W
Q8157	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8118	1-216-029-91	RES,CHIP	150 5% 1/10W
Q8200	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8125	1-216-295-91	SHORT	0
				R8126	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q8201	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8127	1-216-113-00	RES,CHIP	470K 5% 1/10W
Q8202	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8128	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q8301	8-729-038-96	TRANSISTOR IMZ1A-T109		R8129	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8303	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8130	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8304	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8131	1-216-049-91	RES,CHIP	1K 5% 1/10W
				R8132	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q8305	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8133	1-216-113-00	RES,CHIP	470K 5% 1/10W
Q8306	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8165	1-216-295-91	SHORT	0
Q8307	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8167	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8308	8-729-038-96	TRANSISTOR IMZ1A-T109		R8168	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8309	8-729-038-96	TRANSISTOR IMZ1A-T109		R8174	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
				R8175	1-216-065-91	RES,CHIP	4.7K 5% 1/10W
Q8310	8-729-038-96	TRANSISTOR IMZ1A-T109		R8200	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q8311	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R (KV-29FX60B)		R8201	1-216-295-91	SHORT	0
Q8343	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R (KV-29FX60B)		R8202	1-216-021-00	RES,CHIP	68 5% 1/10W
Q8400	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8203	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q8401	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R					
Q8403	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8204	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q8404	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8205	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
Q8405	8-729-038-96	TRANSISTOR IMZ1A-T109		R8206	1-216-049-91	RES,CHIP	1K 5% 1/10W
Q8406	8-729-038-96	TRANSISTOR IMZ1A-T109		R8208	1-216-037-00	RES,CHIP	330 5% 1/10W
Q8407	8-729-038-96	TRANSISTOR IMZ1A-T109		R8209	1-216-659-11	METAL CHIP	2.2K 0.50% 1/10W
Q8425	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8210	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8450	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R8211	1-216-295-91	SHORT	0
Q8453	8-729-902-91	TRANSISTOR 2SA1037K		R8212	1-216-295-91	SHORT	0
Q8456	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8213	1-216-295-91	SHORT	0
Q8459	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R8214	1-216-295-91	SHORT	0
Q8461	8-729-216-22	TRANSISTOR 2SA1037K-T-146-R		R8216	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8900	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8217	1-216-025-91	RES,CHIP	100 5% 1/10W
Q8901	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8223	1-216-089-91	RES,CHIP	47K 5% 1/10W
Q8903	8-729-620-06	TRANSISTOR 2SC2412K-T-146-R		R8224	1-216-089-91	RES,CHIP	47K 5% 1/10W
				R8225	1-216-089-91	RES,CHIP	47K 5% 1/10W

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R8226	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8340	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8227	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8343	1-216-045-00	RES,CHIP	680 5% 1/10W
R8228	1-216-089-91	RES,CHIP	47K 5% 1/10W				(KV-29FX60B)
R8229	1-216-295-91	SHORT	0	R8344	1-216-033-00	RES,CHIP	220 5% 1/10W
R8230	1-216-081-00	RES,CHIP	22K 5% 1/10W				(KV-29FX60B)
R8231	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8345	1-216-033-00	RES,CHIP	220 5% 1/10W
R8232	1-216-089-91	RES,CHIP	47K 5% 1/10W				(KV-29FX60B)
R8233	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8346	1-216-295-91	SHORT	0 (KV-29FX60A/29FX60D/ 29FX60E/29FX60U)
R8234	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8347	1-216-025-91	RES,CHIP	100 5% 1/10W
R8235	1-216-089-91	RES,CHIP	47K 5% 1/10W				(KV-29FX60B)
R8236	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8348	1-216-295-91	SHORT	0 (KV-29FX60B)
R8237	1-216-043-91	RES,CHIP	560 5% 1/10W	R8349	1-216-121-91	RES,CHIP	1M 5% 1/10W
R8238	1-216-063-91	RES,CHIP	3.9K 5% 1/10W	R8350	1-216-073-00	RES,CHIP	10K 5% 1/10W
R8239	1-216-069-00	RES,CHIP	6.8K 5% 1/10W	R8351	1-216-073-00	RES,CHIP	10K 5% 1/10W
R8240	1-216-651-11	METAL CHIP	1K 0.50% 1/10W	R8400	1-216-041-00	RES,CHIP	470 5% 1/10W
R8243	1-216-021-00	RES,CHIP	68 5% 1/10W	R8402	1-216-295-91	SHORT	0
R8300	1-216-041-00	RES,CHIP	470 5% 1/10W	R8403	1-216-041-00	RES,CHIP	470 5% 1/10W
R8302	1-216-017-91	RES,CHIP	47 5% 1/10W	R8404	1-216-295-91	SHORT	0
R8303	1-216-041-00	RES,CHIP	470 5% 1/10W	R8405	1-216-025-91	RES,CHIP	100 5% 1/10W
R8304	1-216-041-00	RES,CHIP	470 5% 1/10W	R8406	1-216-025-91	RES,CHIP	100 5% 1/10W
R8305	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8407	1-216-295-91	SHORT	0
			(KV-29FX60B)	R8408	1-216-295-91	SHORT	0
R8307	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8409	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8308	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8410	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8310	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8411	1-216-097-91	RES,CHIP	100K 5% 1/10W
R8311	1-216-085-00	RES,CHIP	33K 5% 1/10W	R8412	1-216-041-00	RES,CHIP	470 5% 1/10W
R8312	1-216-077-00	RES,CHIP	15K 5% 1/10W	R8413	1-216-041-00	RES,CHIP	470 5% 1/10W
R8313	1-216-041-00	RES,CHIP	470 5% 1/10W	R8414	1-216-041-00	RES,CHIP	470 5% 1/10W
R8314	1-216-041-00	RES,CHIP	470 5% 1/10W	R8415	1-216-041-00	RES,CHIP	470 5% 1/10W
R8316	1-216-295-91	SHORT	0	R8416	1-216-041-00	RES,CHIP	470 5% 1/10W
R8317	1-216-025-91	RES,CHIP	100 5% 1/10W	R8417	1-216-041-00	RES,CHIP	470 5% 1/10W
R8318	1-216-025-91	RES,CHIP	100 5% 1/10W	R8418	1-216-041-00	RES,CHIP	470 5% 1/10W
R8319	1-216-295-91	SHORT	0	R8419	1-216-041-00	RES,CHIP	470 5% 1/10W
R8320	1-216-295-91	SHORT	0	R8420	1-216-041-00	RES,CHIP	470 5% 1/10W
R8321	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8421	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8322	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8422	1-216-017-91	RES,CHIP	47 5% 1/10W
R8323	1-216-097-91	RES,CHIP	100K 5% 1/10W	R8423	1-216-017-91	RES,CHIP	47 5% 1/10W
R8325	1-216-041-00	RES,CHIP	470 5% 1/10W	R8424	1-216-025-91	RES,CHIP	100 5% 1/10W
R8326	1-216-041-00	RES,CHIP	470 5% 1/10W	R8425	1-216-077-00	RES,CHIP	15K 5% 1/10W
R8327	1-216-041-00	RES,CHIP	470 5% 1/10W	R8426	1-216-017-91	RES,CHIP	47 5% 1/10W
R8328	1-216-041-00	RES,CHIP	470 5% 1/10W	R8427	1-216-017-91	RES,CHIP	47 5% 1/10W
R8329	1-216-041-00	RES,CHIP	470 5% 1/10W	R8428	1-216-017-91	RES,CHIP	47 5% 1/10W
R8330	1-216-041-00	RES,CHIP	470 5% 1/10W	R8429	1-216-041-00	RES,CHIP	470 5% 1/10W
R8331	1-216-041-00	RES,CHIP	470 5% 1/10W	R8430	1-216-041-00	RES,CHIP	470 5% 1/10W
R8332	1-216-041-00	RES,CHIP	470 5% 1/10W	R8431	1-216-017-91	RES,CHIP	47 5% 1/10W
R8333	1-216-041-00	RES,CHIP	470 5% 1/10W	R8432	1-216-121-91	RES,CHIP	1M 5% 1/10W
R8334	1-216-017-91	RES,CHIP	47 5% 1/10W				(KV-29FX60B)
R8335	1-216-017-91	RES,CHIP	47 5% 1/10W	R8433	1-216-073-00	RES,CHIP	10K 5% 1/10W
R8337	1-216-077-00	RES,CHIP	15K 5% 1/10W	R8434	1-216-073-00	RES,CHIP	10K 5% 1/10W
R8338	1-216-017-91	RES,CHIP	47 5% 1/10W	R8450	1-216-089-91	RES,CHIP	47K 5% 1/10W
R8339	1-216-017-91	RES,CHIP	47 5% 1/10W				



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R8451	1-216-073-00	RES,CHIP	10K 5% 1/10W	R8924	1-216-022-00	RES,CHIP	75 5% 1/10W
R8453	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8925	1-216-022-00	RES,CHIP	75 5% 1/10W
R8454	1-216-073-00	RES,CHIP	10K 5% 1/10W	R8926	1-216-033-00	RES,CHIP	220 5% 1/10W
R8455	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8927	1-216-033-00	RES,CHIP	220 5% 1/10W
R8460	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8928	1-216-033-00	RES,CHIP	220 5% 1/10W
R8462	1-216-073-00	RES,CHIP	10K 5% 1/10W	R8929	1-216-039-00	RES,CHIP	390 5% 1/10W
R8467	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8930	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8468	1-216-073-00	RES,CHIP	10K 5% 1/10W	R8931	1-216-039-00	RES,CHIP	390 5% 1/10W
R8469	1-216-033-00	RES,CHIP	220 5% 1/10W	R8932	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8470	1-216-022-00	RES,CHIP	75 5% 1/10W	R8933	1-216-089-91	RES,CHIP	47K 5% 1/10W
R8472	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8934	1-216-089-91	RES,CHIP	47K 5% 1/10W
R8473	1-216-073-00	RES,CHIP	10K 5% 1/10W	R8935	1-216-113-00	RES,CHIP	470K 5% 1/10W
R8474	1-216-033-00	RES,CHIP	220 5% 1/10W	R8936	1-216-113-00	RES,CHIP	470K 5% 1/10W
R8475	1-216-022-00	RES,CHIP	75 5% 1/10W	R8937	1-216-039-00	RES,CHIP	390 5% 1/10W
R8550	1-216-295-91	SHORT	0	R8938	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8551	1-216-043-91	RES,CHIP	560 5% 1/10W	R8939	1-216-039-00	RES,CHIP	390 5% 1/10W
R8552	1-216-043-91	RES,CHIP	560 5% 1/10W	R8940	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8553	1-216-043-91	RES,CHIP	560 5% 1/10W	R8941	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
R8554	1-216-037-00	RES,CHIP	330 5% 1/10W	R8942	1-216-009-00	RES,CHIP	22 5% 1/10W
R8555	1-216-069-00	RES,CHIP	6.8K 5% 1/10W	R8943	1-216-022-00	RES,CHIP	75 5% 1/10W
R8556	1-216-025-91	RES,CHIP	100 5% 1/10W	R8944	1-216-071-00	RES,CHIP	8.2K 5% 1/10W
R8557	1-216-025-91	RES,CHIP	100 5% 1/10W	R8945	1-216-022-00	RES,CHIP	75 5% 1/10W
R8558	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8946	1-216-033-00	RES,CHIP	220 5% 1/10W
R8559	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8947	1-216-039-00	RES,CHIP	390 5% 1/10W
R8560	1-216-047-91	RES,CHIP	820 5% 1/10W	R8948	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8561	1-216-045-00	RES,CHIP	680 5% 1/10W	R8949	1-216-022-00	RES,CHIP	75 5% 1/10W
R8562	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8950	1-216-089-91	RES,CHIP	47K 5% 1/10W
R8563	1-216-051-00	RES,CHIP	1.2K 5% 1/10W	R8951	1-216-033-00	RES,CHIP	220 5% 1/10W
R8564	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8952	1-216-113-00	RES,CHIP	470K 5% 1/10W
R8565	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8953	1-216-039-00	RES,CHIP	390 5% 1/10W
R8566	1-216-047-91	RES,CHIP	820 5% 1/10W	R8954	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8900	1-216-039-00	RES,CHIP	390 5% 1/10W	R8955	1-216-039-00	RES,CHIP	390 5% 1/10W
R8901	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8956	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8902	1-216-039-00	RES,CHIP	390 5% 1/10W	R8957	1-216-049-91	RES,CHIP	1K 5% 1/10W
R8903	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8958	1-216-089-91	RES,CHIP	47K 5% 1/10W
R8904	1-216-089-91	RES,CHIP	47K 5% 1/10W	R8959	1-216-022-00	RES,CHIP	75 5% 1/10W
R8905	1-216-113-00	RES,CHIP	470K 5% 1/10W	R8960	1-216-033-00	RES,CHIP	220 5% 1/10W
R8906	1-216-039-00	RES,CHIP	390 5% 1/10W	R8961	1-216-022-00	RES,CHIP	75 5% 1/10W
R8907	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8963	1-216-113-00	RES,CHIP	470K 5% 1/10W
R8908	1-216-039-00	RES,CHIP	390 5% 1/10W	R8964	1-216-039-00	RES,CHIP	390 5% 1/10W
R8909	1-216-049-91	RES,CHIP	1K 5% 1/10W	R8965	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8911	1-216-063-91	RES,CHIP	3.9K 5% 1/10W	R8968	1-216-022-00	RES,CHIP	75 5% 1/10W
R8913	1-216-022-00	RES,CHIP	75 5% 1/10W	R8969	1-216-033-00	RES,CHIP	220 5% 1/10W
R8914	1-216-071-00	RES,CHIP	8.2K 5% 1/10W	R8977	1-216-037-00	RES,CHIP	330 5% 1/10W
R8915	1-216-022-91	RES,CHIP	75 5% 1/10W	R8978	1-216-037-00	RES,CHIP	330 5% 1/10W
R8916	1-216-033-00	RES,CHIP	220 5% 1/10W	R8979	1-216-045-00	RES,CHIP	680 5% 1/10W
R8917	1-216-033-00	RES,CHIP	220 5% 1/10W	R8980	1-216-045-00	RES,CHIP	680 5% 1/10W
R8918	1-216-113-00	RES,CHIP	470K 5% 1/10W	R8981	1-216-085-00	RES,CHIP	33K 5% 1/10W
R8919	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R8982	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R8922	1-216-022-00	RES,CHIP	75 5% 1/10W	R8983	1-216-077-00	RES,CHIP	15K 5% 1/10W
R8923	1-216-022-00	RES,CHIP	75 5% 1/10W	R8990	1-216-057-00	RES,CHIP	2.2K 5% 1/10W

The components identified by shading and marked Δ are critical for safety
Replace only with the part number specified.

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REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R8991	1-216-097-91	RES,CHIP	100K 5% 1/10W			< MISCELLANEOUS >	
R8992	1-216-057-00	RES,CHIP	2.2K 5% 1/10W				
R8993	1-216-057-00	RES,CHIP	2.2K 5% 1/10W				
		< CRYSTAL >					
X8200	1-781-148-21	VIBRATOR, CRYSTAL					
X8300	1-567-504-11	OSCILLATOR, CRYSTAL					
X8301	1-567-505-11	OSCILLATOR, CRYSTAL					
X8400	1-567-504-11	OSCILLATOR, CRYSTAL					
X8401	1-567-505-11	OSCILLATOR, CRYSTAL					
X8550	1-760-551-21	VIBRATOR, CERAMIC					

SERVICE MANUAL

AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29FX60A	RM-891	Italian	SCC-Q12A-A	KV-29FX60E	RM-891	Spanish	SCC-Q14A-A
KV-29FX60B	RM-891	French	SCC-Q13A-A	KV-29FX60U	RM-891	UK	SCC-Q15A-A
KV-29FX60D	RM-891	AFP	SCC-Q11A-A				

CORRECTION - 1

SUBJECT : D BOARD PWB ERROR

File this correction with the service manual

INTRODUCTION : Due to a printing error the D Board PWB layout is incorrect. Refer to the layout indicated in this correction bulletin.

. **D Board [Power Supply and Deflection]**.....See page 106

[POWER SUPPLY AND DEFLECTION]





SERVICE MANUAL

AE-5 CHASSIS

MODEL	COMMANDER	DEST	CHASSIS NO.	MODEL	COMMANDER	DEST	CHASSIS NO.
KV-29FC60A	RM-891	Italian	SCC-Q12C-A	KV-29FC60E	RM-891	Spanish	SCC-Q14C-A
KV-29FC60B	RM-891	French	SCC-Q13C-A	KV-29FC60K	RM-891	OIRT	SCC-Q16D-A
KV-29FC60D	RM-891	AEP	SCC-Q11C-A	KV-29FC60R	RM-891	OIRT	SCC-Q16C-A

CORRECTION - 1

SUBJECT : D BOARD PWB ERROR

File this correction with the service manual

INTRODUCTION : Due to a printing error the D Board PWB layout is incorrect. Refer to the layout indicated in this correction bulletin.

- **D Board [Power Supply and Deflection].....**See page 106

[POWER SUPPLY AND DEFLECTION]



